IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

INTELLECTUAL VENTURES I LLC and INTELLECTUAL VENTURES II LLC,	§	
Plaintiffs,	§	C.A. No. 6:21-cv-01088-ADA
v.	§	**JURY TRIAL DEMANDED**
GENERAL MOTORS COMPANY and GENERAL MOTORS LLC,	§	
Defendants.	§	

PLAINTIFFS INTELLECTUAL VENTURES I LLC AND INTELLECTUAL VENTURES II LLC'S RESPONSIVE CLAIM CONSTRUCTION BRIEF

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I. INTRODUCTION

Plaintiff Intellectual Ventures I LLC and Intellectual Ventures II LLC ("Intellectual Ventures" or "IV") submits this Responsive Claim Construction Brief in support of IV's proposed claim construction of the terms and phrases identified for construction from the claims of U.S. Patent Nos. 6,832,283 (the "'283 Patent"), 7,891,004 (the "'004 Patent"), 9,934,628 (the "'628 Patent"), 9,291,475 (the "'475 Patent"), 7,382,771 (the "'771 Patent"), 9,232,158 (the "'158 Patent"), 9,681,466 (the "'466 Patent"), 10,292,138 (the "'138 Patent"), 8,953,641 (the "'641 Patent"), 8,811,356 (the "'356 Patent"), 7,684,318 (the "'318 Patent"), and 9,602,608 (the "'608 Patent") (collectively, the "Asserted Patents" or "Patents-in-Suit") and in response to Defendants General Motors Company and General Motors LLC's ("General Motors" or "GM") Opening Claim Construction Brief ("CC Br.") (Dkt. 47).

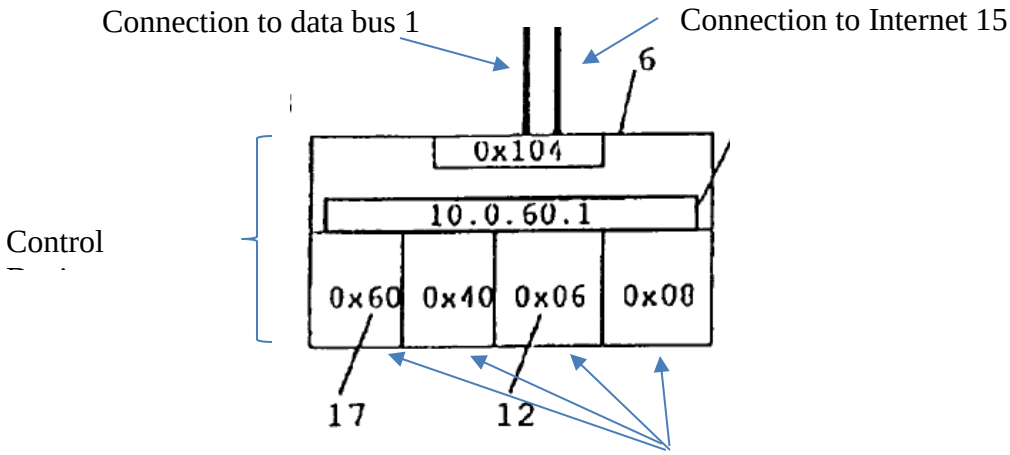
II. THE DISPUTED CLAIM TERMS

A. '283 Patent – "component"

IV's Construction	GM's Construction
"A functional block subdivided from a control device."	

Claim 1 specifies that each "component" is in a "data bus system" of "a first network," and at least one such component communicates with "a second network." FIG. 1 (reproduced in part with annotations below) depicts "a number of control devices to which the method ***according to the invention***" is used. Ex. 1[1], '283 Patent at 5:55-57 (emphasis added). In the words of claim 1, control device 6 (shown below) is part of data bus 1 (a first network) and also communicates with the Internet 15 (a second network).

[1] All citations to "Ex._" refer to exhibits to the August 5, 2022 Declaration of Jonathan K. Waldrop filed concurrently herewith.



components / subdivided functional blocks

The Summary of the Invention makes clear that the subdivided functional blocks (depicted above) are part of the function-specific addressing that is the centerpiece of the invention. *See id*. at 2:83:2:31-45 and 4:21-33. The subdividing of control devices into functional blocks is then reiterated in the Detailed Description. *See id*. at 6:52-53 ("The ***control device 3*** has ***two function blocks 8, 9*** which are functionally addressed by means of a function-specific address component 0x51 and 0x06, respectively") and 9:28-31 ("As can be seen in FIG. 2, ***component 2*** with the logical address 0x100 has the ***function blocks*** with the function specific address components 0x22, 0x06, 0x08 and 0x40 via which the individual function blocks within the data bus 1 are addressed."); *see also* Hernandez at ¶¶ 82-87

Thus, the intrinsic evidence points to Plaintiff's proposed construction of "component" to mean "a functional block subdivided from a control device." The specification uses this subdividing aspect in the "Summary of the Invention," discloses it in conjunction with limiting language like "according to the invention," and uses it in the only disclosed embodiment. Accordingly, "component" should be construed as proposed by IV. Hernandez at ¶¶ 82-87.

B. '283 Patent – "first address"

IV's Construction	GM's Construction
"a logical address that specifies the physical location of a control device, and a function-specific address associated with a subdivided component of the device"	

In claim 1, a "component" (construed above) is tied to its "first address," because "each ***component is assigned a first address***." Hernandez at ¶¶ 88-93. The '283 Patent specification makes clear that the first address identifies a ***function block***, as well as ***the control device from it was subdivided***. As was the case above, the term "first address" is introduced in the Summary of the Invention, and then defined in the Detailed Description as including both a ***logical address*** of a control device and a ***function specific*** address of a subdivided functional block. *See id*. at 2:58 – 3:2 and 6:41-58. Fig. 2 depicts "a simplified representation of an allocation of addresses to different components as can be stored in the central register ***according to the invention***." *Id*. at 5:58-60 (emphasis added). Both portions of the "first address" are shown in FIG. 2. The logical addresses in the LogicalAddr column specify the physical location of a control device, and the function-specific addresses in the FunctionAddr column specify the subdivided functions of the device. Finally, during the prosecution history, Applicant repeated its definition of "first address" as having both logical and function portions, equating it with "the invention":

> Applicant's attorney explained the ***invention*** and how the components can have ***logical as well as functional addresses*** and further can be assigned IP addresses from the second network."

Ex. 2, June 30, 2004 Examiner Interview Summary (emphasis added). Again, all the intrinsic evidence points to Patent Owner's proposed construction of "first address" to mean "a logical address that specifies the physical location of a control device, and a function specific address associated with a subdivided component of the device." The specification introduces "first address" in the "Summary of the Invention," defines it later in the Detailed Description as

including both logical and functional-specific portions, uses it in the manner proposed by Plaintiff in the only disclosed embodiment, and reiterates its definition again using limiting language like "the invention" during the prosecution history. Accordingly, "first address" should be construed as proposed by Plaintiff. Hernandez at ¶¶ 88-93.

C. '283 Patent – Claim 1

IV's Construction	GM's Construction
Plain and ordinary meaning, no construction necessary, the claim is not indefinite.	Indefinite

GM's argument that claim 1 in its entirety is indefinite because it does not disclose active steps should be rejected. Hernandez at ¶¶ 94-97. Claim 1 includes the active step:

> addressing components of a first network in a data bus system in a transport vehicle, *in which* each component is assigned a first address for mutual communication within the network and the first addresses are stored in a central register…

See Ex. 1, '283 Patent at claim 1. This active step does not merely a benefit or intended use, which is well above the standard in the cases that GM cites. Op. Br. at 2, n.1. For example, claim 1 is distinguishable from *In re Hardman* where the claims in that patent only describe the benefit that flowed from the use of the method. *In re Hartman*, 513 F. App'x 955, 956–57, n.2 (Fed. Cir. 2013) (claim 36 – "teaching the concept of the infinity of cyberspace as a tool to improve commerce and to grow the economy" and claim 38 "aiding small businesses and entrepreneurs [by] mak[ing] startups easier and more affordable"). Likewise, claim 1 is distinguishable from *Ex Parte Elrich* which only claimed a use without any active positive steps delineating how the use was actually practiced. *Ex Parte Erlich*, 3 U.S.P.Q.2d 1011 (B.P.A.I. 1986) (invalidating claims 6 and 7 "6. A process for using monoclonal antibodies of claim 4 to isolate and purify human fibroblast interferon" and "7. A process for using monoclonal antibodies of Claim 4 to identify human fibroblast interferon."). Like *Elrich*, *Ex Parte Werner Fries*, also merely recites a

use without any active, positive steps. No. 1997-3643, 2001 WL 1057428, at *5 (B.P.A.I. 2001) ("the use of printing inks as claimed in claim 1 for the sheet-fed offset printing process, without powdering the printed products.")

In contrast to these cases above, claim 1 recites a method for a particular operation and does not merely claim a benefit or use and provides the required level of reasonable degree of precision and particularity (*see* above). Dr. Andrews in ¶¶ 169-178 merely analyzes the portions of the claims outside of the scope of the patents without reference to the specification. *See, e.g., Hockerson-Halberstadt, Inc. v. Converse Inc*., 183 F.3d 1369, 1374 (Fed. Cir. 1999) ("Proper claim construction ... demands interpretation of the entire claim in context, not a single element in isolation."). It is not impossible to determine when infringement is configured to perform addressing. Hernandez at ¶¶ 94-97. The Court should deny GM's argument that Claim 1 is indefinite.

D. '283 Patent – "wherein, within the first network, addressing takes place on the basis of a function specific address component" and "wherein addressing within the first network takes place on the basis of the function-specific address components" (Claim 1 and 21)

IV's Construction	GM's Construction
Plain and ordinary meaning	"wherein, within the first network, addressing takes place on the basis of function-specific address components which excludes standard communication protocols such D2B or MOST"

GM's construction (above) seeks to import the language - "which excludes standard communication protocols such as D2B or MOST" into the limitation (CC Br. at 4) based on an implicit disavowal. CC. Br. at 4-5. In this case, the Court need go no further than the claims and the patent specification to find otherwise. Claims 1, 6, and 7 disclose:

> a method for addressing components of a first network in a databus system in a transport vehicle…"

> 6. Method according to claim 1, wherein data are transmitted via an optical data bus.
>
> 7. The method according to claim 6, ***wherein the optical data bus is one of a D2B or MOST data bus***.

Compare Claims 1, 6, and 7 (emphasis added). Since, dependent Claims 6 and 7 add the limitations "wherein data are transmitted via an optical data bus" and "wherein the optical data bus is one of a D2B or MOST data bus." The '283 Patent specification further confirms that the data bus can be an "optical D2B or MOST data bus with basically time-synchronous data transmission." Ex. 1, '283 Patent at 6:11-15; Hernandez at ¶¶ 98-102. Thus, GM's construction not only renders the claim meaningless, but it contradicts the claims and specification.

GM cites to *Techtronic Indus. Co. v. Int'l Trade Comm'n*, for the idea that claim disavowal can be implicit admitting there is no express disavowal. CC Br. at 4 (citing 944 F.3d 901, 907 (Fed. Cir. 2019) ("*Techtronic*"). However, *Techtronic* disavowal occurred because the feature at issue was described throughout the entire specification including the discussion of the benefit which was distinguished from prior art systems. *Id*. Nothing even close to this is present in the '283 Patent specification. Instead GM points to two examples described in the '283 Patent specification (CC. Br. at 5), which are not repeated throughout the entire specification as the core or "key" feature (as demonstrated above).

The same is true for the next statement. The '283 Patent specification states that addressing ***can*** take place on the data bus via an address component "for example, in the D2B or Most protocol ***and/or*** via a function-specific address component." Ex. 1,'283 Patent at 3:7-13 (emphasis added) Hernandez at ¶¶ 98-102. Again, the use of the term and/or does not specify that D2B, MOST, or other current/future communication protocols cannot be used together and cannot include both.

GM has not come close to showing an implicit disavowal of claim scope that excludes "standard communication protocols." The Court should reject GM's construction.

E. '283 Patent - "Method according to claim 1, wherein a component of the first network registers a communication with the second network with the at least one particular component which communicates with the second network . . . " (Claim 2)"

IV's Construction	GM's Construction
Plain and ordinary meaning	Indefinite

GM contends that claim 2 is indefinite because the claim language requires a "component of the first network" that "registers a communication with the second network," which GM claims is not described in the specification. *See* CC Br. at 6. GM is mistaken. The '283 Patent explains that in addition to logical addressing functional addressing is also provided and the components are subdivided into function blocks. Ex. 1, '283 Patent at 4:26-29 and 6:43-49; Hernandez at ¶¶ 103-110. The hierarchy of addresses is shown in all figures of the patent, where element 13 is an IP Address and element 17 being a functional component receives another address, as well as element 12. *See e.g., id*. at Fig. 1. The '283 Patent explains that the second network internet 15 can be connected to the first optical network via a radio transmission link 16 via a mobile telephone. *Id.* at 8:35-37. The first network is addressed from the second network. *Id*. at 3:49-54. The '283 Patent discloses an embodiment where the IP address 13 of component 6 is IP address 10.0.60.1 and control device 6 can be addressed from the external internet. *Id*. at 9:59-62. To prevent unauthorized access by a communication from the second network 15 to the data bus 1, the central register of the network master 2 contains information on which main function components 17 can receive an address. *Id*. at 9:14-19. When messages are received, their access authorization and their syntax can be checked in this manner. *Id*. at 9:20-21.

As a result, a person of skill in the art would understand that "a component of the first network" (*e.g.* network master 2) registers a communication with the second network (*e.g.* when messages are received, their access authorization and their syntax can be checked in this manner) with the at least one particular component (*e.g.* control device 6 via main function block 17) which communicates with the second network (*e.g.* internet 15). Hernandez at ¶¶ 103-110. This is confirmed by the second portion of claim 2 which states "whereupon a component of the at least one particular component, with the internal address from the first network, enables communication with an external IP address and thereupon sets up communication with the second network." *See e.g.*, *id.* at 9:59-62; Hernandez at ¶¶ 103-110. GM is wrong that there is no description that discloses registering in the '283 Patent specification.

F. '771 Patent - "a Local Area Network (LAN) routing system" (Claims 1 & 9)

IV's Construction	GM's Construction
Revised Construction: a system that directs data between a local area network and the Internet by managing the data path between a wireless access point and an Internet access interface	Plain and ordinary meaning.

IV proposes the construction "a system that directs data between a local area network and the Internet by managing the data path between a wireless access point and an Internet access interface. IV proposes the construction, which was already construed by the PTAB in order to be consistent with the construction. *See* Exs. 3-4, March 13, 2020 Final Written Decision on Remand at 11 and September 9, 2015 Final Written Decision at 9-10.

G. '771 Patent - "without the need to access an external service controller server" and "stand alone system"

IV's Construction	GM's Construction
Plain and ordinary meaning	Without the need to connect to an external server before enabling a client device to access the internet
a system capable of operating independently of any other system.	

GM's proposed construction seeks to change the claim language "without the need to access an external service controller" to "without the need ***to connect to an external server***…" There is no support in the portions of the FH that GM cites that would limit the claim from accessing any external server. Indeed, the portion of the FH that GM references was distinguished because the prior art reference at issue, Kokkinen, required "a service control server 90 which accesses the Internet through a gateway 92 [and] [m]uch of the functionality is ***off-loaded*** on the service controller server." See Ex. 5, June 11, 2007 Remarks at 8 (emphasis added). The applicant distinguished its invention by arguing that Applicant's system was capable of ***stand-alone*** operation unlike the system of Kokkinen." *Id*. at 9. The examiner rejected the applicant's argument because "there [was] nothing in the claims about a stand-alone system nor has applicant negatively claimed an auxiliary server." *See* Ex. 6, September 11, 2007 Non-Final Rejection at 4. The Applicant later amended the claims to include the "stand-alone" language and added the negatively claimed requirement regarding the auxiliary server that the examiner raised. Ex. 7, November 30, 2007 Remarks. Thus, the claim limitations themselves addressed the issues raised by the examiner. To clarify, IV proposes to construe the term "stand-alone system" so that it is consistent with IPR 2014-00504. Ex. 3, March 13, 2020 Final Written Decision on Remand at 12. This construction sufficiently addresses the FH disclaimer argument that GM raises.

H. '318 Patent – "transmit opportunity" and "wherein the transmit opportunity is commenced with a control frame"

IV's Construction	GM's Construction
Not indefinite.	Indefinite.
Not indefinite.	Indefinite.

The term "transmit opportunity" is not indefinite. Williams at ¶¶ 116-137. GM's indefiniteness arguments should be deemed waived because GM failed to disclose the theory in its

April 2022 invalidity contentions and its subsequent contentions do not disclose its theories first presented in the briefing. Ex. 8, April 2022 Invalidity Contentions at *passim*; Ex. 9, May 2022 Invalidity Contentions at 2-3; *Auxilium Pharms., Inc. v. Watson Lab'ys, Inc*., No. CIV.A. 12-3084 JLL, 2014 WL 2624780, at *5 (D.N.J. June 12, 2014) ("because Watson did not raise an indefiniteness defense in its invalidity contentions, the Court concludes Watson cannot now seek a determination that the patents-at-issue are invalid for indefiniteness through claim construction").

Wireless communication systems share the same bandwidth and Radio Frequency (RF) resources, hence having an "window" or "opportunity" to transmit. This concept is well understood by a POSITA. Williams at ¶¶ 116-137. The claims themselves explain the term such that a POSITA would be informed "about the scope of the invention with reasonable certainty." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). Claim 1, in context, explains "frames to be transmitted during a transmitting station's *transmit opportunity*, wherein the data frames are queued in a queue, wherein the *transmit opportunity* corresponds to a length of time during which the transmitting station will transmit data frames from the queue to a shared-communications channel." Ex. 10, '318 Patent at Claim 1 (emphasis added).

The specification provides further support by providing exemplary embodiments. For example, Figure 3 ("opportunity to transmit") gives an example of a transmit opportunity as used in a flow chart of an illustrative embodiment: *Id.* at Fig. 3, 2:44-45. Describing that embodiment, the specification describes another embodiment of an "opportunity to transmit:"

> At task 303, station 200 acquires, in well-known fashion, an ***opportunity to transmit*** one or more frames associated with application i. In accordance with the illustrative embodiment, this opportunity enables station 200 to transmit a burst of up to M frames over shared-communications channel, where M is a positive integer.

Id. at 3:34-39. (emphasis added). The file history is consistent with the specification. Williams at ¶¶ 116-137. During prosecution, applicant pointed to additional paragraphs in the specification that describe a transmit opportunity. Ex. 11, June 19, 2008 Applicant Remarks at 8 ("For instance, transmit opportunities (TXOPs) are described in the specification in the context of 802.11 (e.g., see paragraphs 0008, 0010, 0028])"); Ex. 10, '318 Patent at 2:3-7; 2:15-28 (emphasis added); 3:40-46 (emphasis added). These examples are sufficient to inform a POSITA with reasonable certainty the scope of the invention. Williams at ¶¶ 116-137.

GM argues that the term transmit opportunity would not have an understanding in the art despite the overwhelming evidence to the contrary. CC Br. at 10-11. GM simply disregards the context of the term in the claims, specification, and prosecution history, all the while admitting that the term was explained in the file history. CC Br. at 11. GM's plainly inconsistent arguments should be disregarded. For example, GM, argues without citations that the Applicant amended the claims from transmission to transmit to overcome prior art. That is plainly wrong. CC Br. at 12 (citing nothing in the file history). Rather, when Applicant's amendments are read in context is clear that amendment was not replacing transmission for transmit. Ex. 12, Oct. 31, 2007 Amendment at 6 (emphasizing the ***entire*** limitation "**setting a length of the transmit opportunity based on a priority of the queue limitation**" was not disclosed in the prior art) (underling added). Similarly, GM pulls the "corresponds" limitation of claim 1 out of context and argues that particular limitation defines "transmit opportunity" in a different way than the specification. CC Br. at 12. Furthermore, GM's argument seeks to limit "corresponds" to "equal to," which the Federal circuit has specifically rejected. *Broadcom Corp. v. Emulex Corp*., 732 F.3d 1325, 1333 (Fed. Cir. 2013) ("Indeed the claim does not use language of equation but of correspondence, a much broader concept").

GM also appears to make a grammatical argument that "transmission opportunity" is not a transmit opportunity. CC Br. at 12. As explained in the examples above, Patentee uses those terms interchangeably and a POSITA would understand that "transmit opportunity" is a shortened way of referring to an "opportunity to transmit."

GM also argues that claims 1 and 8 are indefinite based on the broader term, "wherein the transmit opportunity is commenced with a control frame." GM argues that if a statement taken out of context from the prosecution history is adopted as the definition of "transmit opportunity" the claims would be indefinite. CC Br. at 13. But GM never proposes that as a definition, implying that it does not actually consider "maximum amount of time" to be the definition of the term. *Id*. Rather, there is no dispute that the file history was not defining the term, but contrasting a time interval from allocated bandwidth.[2] Ex. 11, June 19, 2008 Applicant Remarks at 10. The specification comports with this understanding. Indeed, in an exemplary embodiment, the specification describes a time interval. Ex. 10, '318 Patent at 3:64-66 ("processor 203 determines the amount of time, Ti, that is to be afforded to the transmission of frames for queue"). Contrary to GM's assertions, a control frame can commence a time interval. Similarly, Figure 4 provides a specific example of an embodiment "wherein the transmit opportunity is commenced with a control frame." *Id*. at Fig. 4, 2:46-48, 5:4-33. At the very beginning of that example, commencement occurs with a "Request to Send frame (RTS)" (*id*. at 5:11-12), which is an example of a control frame. *Id*. at 3:4-5.

[2] It would be improper to limit the claim term based on a statement in the file history absent a clear and unmistakable disavowal. *See, e.g., Purdue Pharma L.P. v. Endo Pharms. Inc.*, 438 F.3d 1123, 1136 (Fed. Cir. 2006); *3M Innovative Properties Co. v Tredegar Corp.*, 725 F.3d 1315, 1325 (Fed. Cir. 2013). The distinguishing statement would not amount to a proper disavowal. *Id*.

I. '004 Patent - "automatically forming a network of the plurality of network elements" (Claim 68)

IV's Construction	GM's Construction
Plain and ordinary meaning, no construction necessary	automatically ***assembling and configuring*** the plurality of network elements to communicate with one another

The claim term, when read in the context of the specification, is clear and therefore no construction is necessary. Williams at ¶¶ 56-66. For example, "automatically," as used in an example, refers to its usual meaning, "with no intervention by a vehicle owner." Ex. 13, '004 Patent at 4:29-30; Williams at ¶¶ 56-60. The plain meaning does not include GM's proposed imported limitations of "assembling and configuring." The specification describes forming a network as follows:

> "FIG.22 is a WINS vehicle internetwork system 2200 of an embodiment. The system 2200 provides **self-assembling components that form a wireless network** among vehicles 2202 and local sites 2204, which can, for example, be located in a residence, service station, maintenance shop, or parking lot."

Id. at 28:45-50 (emphasis added).

The prosecution history further comports with this understanding. Williams at ¶ 61. After the claims were allowed (Ex. 14, Mar. 24, 2010 Notice of Allowance), Applicant requested a minor, non-narrowing amendment that included the disputed claim language. Ex. 15, May 20, 2010 Amendment at 18, 21. Those amendments replaced "assembling" with "forming." *Id*. In the Remarks, Applicant explained that these were "minor non-narrowing amendments." *Id*. at 21. The Examiner allowed the minor amendments without objection. Ex. 16, July 20, 2010 Notice of Allowance; Williams at ¶ 61

GM's constructions should be rejected. GM (i) seeks to interject limitations into the claim; (ii) reads out the phrase "a network" from the claim; and (iii) is inconsistent with the intrinsic record. Based on the word "automatic," GM imports "assembling and configuring" limitations

into the claim based on nothing more than extrinsic evidence.[3] GM also imports "to communicate with one another" into the claim. *Id*. Both are improper. *Kara Tech. Inc. v. Stamps.com Inc*., 582 F.3d 1341, 1348 (Fed. Cir. 2009) ("we will not limit him to his preferred embodiment or import a limitation from the specification into the claims"); *see also* Williams at ¶¶ 62-66.

GM's construction also reads out of the claim "a network" which provides antecedent basis for the other term GM disputes. That is improper because it would render a word meaningless.[4] *See e.g.*, *Exmark Mfg. Co. Inc. v. Briggs & Stratton Corp*., 830 F. App'x 305, 310 (Fed. Cir. 2020).

GM's construction is also inconsistent with the intrinsic record. As explained above, "automatic" should be accorded its plain meaning, which is consistent with the specification. Ex. 13, '004 Patent at 4:29-30. Also, during prosecution, Applicant apparently referred to "assembling" as "forming," not GM's proposed construction. Ex. 15, May 20, 2010 Amendment at 18. Moreover, GM ignores that the patentee used different language in claim 68 than that of claim 1, which requires the claim language "automatically assembling and configuring" showing the claims have a different meaning. Ex. 13, '004 Patent at Claim 1. *See e.g., Takeda Pharm. Co. v. Zydus Pharms*. USA, Inc., 743 F.3d 1359, 1365 (Fed. Cir. 2014) (finding use of different language indicating different meaning).

GM argues that without its imported limitations, there would be no antecedent basis for "the assembled plurality of network devices." CC Br. at 15. That argument fails. First, if GM was right, it would have proposed "automatically assembling the plurality of network elements," ***without*** adding an additional "configuring" limitation. Second, GM's construction reads out the "a network" portion of the claim, which provides antecedent basis for that term. Third, even if

[3] GM relies on the say-so of its hired expert, along with an extrinsic reference that does not even contain GM's stated definition. Dkt. 47-1 at ¶¶ 3, 110.
[4] GM then improperly argues that the claim is indefinite for lack of antecedent basis when its own construction disregards the antecedent basis. CC Br. at 16.

antecedent basis were lacking, it does would render the claim indefinite because the meaning is still reasonably ascertainable. *See, e.g., In re Downing*, 754 F. App'x 988, 996 (Fed. Cir. 2018) ("We, however, do not agree that the claims are indefinite due to a lack of an antecedent basis").

J. '004 Patent - "the assembled plurality of network elements" (Claim 68)

IV's Construction	GM's Construction
Plain and ordinary meaning, no construction necessary not indefinite	*Indefinite*

GM's indefiniteness arguments should be deemed waived. GM failed to raise its indefiniteness theory in April 2022 invalidity contentions and its subsequent contentions do not disclose its theories first presented in the briefing. *See supra*.

GM argues that the term renders the claim indefinite because it lacks antecedent basis. GM is wrong because (i) the term ***has*** antecedent basis; and (ii) even assuming *arguendo* a lack of antecedent basis, the meaning is still reasonably ascertainable. Williams at ¶¶ 67-72. First, even if it is not the exact term, the claim term clearly derives antecedent basis from the phrase "a network" just before it. This clear from the context of the claim:

> automatically **forming *a network* of the plurality of network elements** in which the gateway node provides a bridge between the first vehicle bus and the second vehicle bus, wherein the bridge is operable to pass messages between the first vehicle bus and the second vehicle bus;
>
> coupling at least one network element of **the assembled plurality of network elements** to a remote computer located outside of the motor vehicle; and
>
> remotely controlling, at the remote computer, at least one function of **the assembled plurality of network elements**

Ex. 13, '004 Patent at Claim 68 (emphasis added). Reading the claim in context, "the assembled plurality of network elements" refers back to the network formed earlier in the claim. *Id*. It is of no moment that earlier language does not exactly match the term because an exact match is not required for antecedent basis. *See e.g., Cross Med. Prod., Inc. v. Medtronic Sofamor Danek, Inc*.,

424 F.3d 1293, 1319 (Fed. Cir. 2005) ("antecedent basis can be present by implication").[5] Second, even assuming *arguendo* a lack of antecedent basis the meaning is still reasonably ascertainable because it is clear that the term refers back to the network formed.[6] Ex. 13, '004 Patent at Claim 68 (emphasis added). FIGURE 9 of the patent shows, element 900 shows a Link and Proxy ARP layers, that are part of the link-layer, as well as IP Clients and IP (PNP) that are part of the network layer protocols, Hence, assembling and configuring are improper limitations imposed by GM.

GM attempts to interject confusion into the claim by arguing that the "assembled plurality of network elements" could refer to any instance that the claim recites "network elements." CC Br. at 16. That is inconsistent with the claim because the term requires the elements to be ***assembled***. Ex. 13, '004 Patent at Claim 68. As explained above, there is only one instance where the elements are assembled—that is when they are formed into ***a network***. *Id*. As such it would be clear to a POSITA that the term does not refer to any group of network elements, but would only refer to the assembled network, once link-layers can establish a connection, and configured once application layers can complete a communication path.

K. '356 Patent - "assigned time intervals" and "in a time interval"

IV's Construction	GM's Construction
"Time slots within a frame"	

[5] *See also Schindler Elevator Corp. v. Otis Elevator Co*., No. CIV.A.09CV0560 (DMC), 2010 WL 199600, at *9 (D.N.J. Jan. 13, 2010), *on reconsideration*, No. 09-CV-0560 DMC JAD, 2010 WL 3169339 (D.N.J. Aug. 3, 2010) ("Although the exact phrase 'strand pattern' is not used in Claim 2, it does not follow that the term 'said strand pattern' of Claim 4 cannot refer to the group of strands contained in Claim 2").

[6] Even the case law GM cites acknowledges the lack of antecedent basis does not necessarily render a claim indefinite. CC Br. at 16; *see also In re Downing*, 754 F. App'x at 996 ("the lack of an antecedent basis does not render a claim indefinite as long as the claim 'apprises one of ordinary skill in the art of its scope'"). GM's reference to *Imperium* is inapplicable. CC Br. at 16. For example, *InfoGation Corp. v. ZTE Corp*., No. 16-CV-01901-H-JLB, 2017 WL 1821402, at n. 17 (S.D. Cal. May 5, 2017) specifically distinguished *Imperium* and explained that *Imperium* "dealt with a different situation where the relevant claim term was first stated in the singular and then later stated in the plural.… In light of that ambiguity, the district court found that the scope of the relevant claims was not discernible." *Id*. (*citing Imperium (IP) Holdings, Inc. v. Apple, Inc*., 920 F. Supp. 2d 747 (E.D. Tex. 2013)). That is not the case here, where the claim term is clear from context that there is only one assembled plurality of network elements.

Claim 1 of the '356 Patent reads:

> 1. A user equipment (UE) comprising:
> a processor configured to receive resource allocation information associated with an uplink physical control channel, wherein the uplink physical control channel and a physical uplink shared channel have different resources;
> the processor is further configured to send data over the physical uplink shared channel in ***assigned time intervals***;
> the processor is further configured, ***in a time interval that it is not sending information over the physical uplink shared channel***, to send a signal over the uplink physical control channel based on the received resource allocation information; and
> the processor is further configured to receive feedback information from a downlink control channel.

See Ex. 17, '356 Patent at Claim 1. The '356 Patent specification explains the claimed invention in the context of TD-CDMA systems, where the term "assigned time slot" has a well understood meaning. Specifically, in such systems, it is well understood that a data stream is divided into frames, which are in turn divided into time slots. Each user is typically "assigned" a time slot for communications. In the '356 Patent, the term "time interval" and "time slot" are used synonymously, appearing more than a dozen times in the specification. In every instance, the term refers to a time slot within a frame, *e.g.*, a TD-CDMA frame, where a physical uplink shared channel is assigned most of the time slots which are used for sending data, while a physical uplink control channel is assigned at least one other time slot within the frame for implementing an uplink physical control channel.

An example of one such frame is shown in FIG. 2 of the '356 Patent, where the physical uplink shared channel is assigned most of the time slots 214 within the frame, and time slot 216 is used for implementing the physical uplink control channel.

This concept from the specification is captured in claim 1 of the '356 Patent, which recites that ***data*** is sent "over the physical uplink shared channel in ***assigned time intervals***," while

another time interval in the frame – *i.e.*, "a time interval that it is not sending information over the physical uplink shared channel" – is used for implementing the uplink physical control channel.

L. '356 Patent - "the processor is further configured to receive feedback information from a downlink control channel" and "receiving, by the UE, feedback information from a downlink control channel" (Claims 1 & 22)

IV's Construction	GM's Construction
Plain and ordinary meaning, no construction necessary.	"the processor is further configured to receive information in response to the signal sent over the uplink physical control channel from a downlink control channel" / "receiving, by the UE, information in response to the signal sent over the uplink physical control channel from a downlink control channel."

GM provides no compelling reason to depart from the plain and ordinary meaning, but instead seeks to import limitations into the claims. Williams at ¶¶ 102-106. GM seeks import the following language into the claim, "information in response to the signal sent over the uplink physical control channel," arguing that specification limits "feedback information" to GM's proposed definition.[7] CC Br. at 18. However, it is improper to import limitations from the specification into the claims without a clear and unmistakable disclaimer, which is not present. GM cites an embodiment of the ***uplink*** physical control channel (UL_Beacon) being independent from the uplink channel. CC Br. at 18 (citing '356 Patent at 2:25-26). Nowhere does this excerpt include the limitation GM seeks to add and nowhere is there a clear disclaimer. Moreover, this description is related to the ***uplink*** physical control channel (*id.*), not the ***downlink*** control channel, described in the claim term. Williams at ¶¶ 102-106.

The remainder of GM's cited evidence relates to exemplary embodiments, which cannot be used to limit the scope of the claims and in any case does not use the language that GM proposes. CC Br. at 18; *Kara*, 582 F.3d at 1348. Furthermore, GM's construction reads out other

[7] GM's hired expert, Dr. Paul Min, regurgitates the same arguments presented in GM's brief, and should, therefore, be rejected for the same reasons set forth herein. Dkt. 47-28 at ¶¶ 4, 86-91.

embodiments specifically contemplated by the patent. For example, the speciation explains that "there are a large number of possibilities for the arrangement of a UL Beacon and its associated PLCCH within the frame structure according to embodiments of the invention."[8],[9] Ex. 17, '356 Patent at 5:32-35; *see also* Williams at ¶¶ 102-106.

M. '158 Patent - "integration time" (Claims 1-3, 7-9, 11-16)

IV's Construction	GM's Construction
Plain and ordinary meaning, no construction necessary not indefinite	The time electrical charge is ***stored or accumulated*** when a sensor is exposed to light

GM's sole argument for its construction is that the term "integration time" was "defined" by the patentee. (CC Br. at 19 (citing '158 Patent at 4:3-6 ("The amount of integrated photo-charge is directly related to the time the image sensor collects and integrates signal from the scene. This is known as integration time").) Once again, GM is wrong. The specification excerpt that GM relies on does not provide an explicit and unequivocal definition of the term "integration time." In any case, GM does not use the purported explicit definition in its construction since it removes the word words including "integrates" (shown below).

Purported Definition of "Integration Time"	GM's Proposed Construction
The amount of integrated photo-charge is directly related to **the time the image sensor collects and integrates signal from the scene**. This is known as integration time. Ex. 18, '158 Patent at 4:3-6	The time electrical charge is **stored or accumulated** when a sensor is exposed to light

The '158 Patent does not define "integration time" anywhere to mean the "time the sensor accumulates electrical charge" as shown above. CC Br. at 19. It references "the time the image sensor *collects and integrates* signal from the scene." Ex. 18, '158 Patent at 4:3-6 (emphasis added). A POSITA will know that an "integration time" is not limited to an "electrical charge."

[8] In exemplary embodiments, UL Beacon refers to "the uplink physical channel control signal." Ex. 17, '356 Patent at 2:24-26

[9] In exemplary embodiments, the "downlink channel is referred to as the "Physical Layer Control Channel" (PLCCH)." *Id*. at 5:1-2.

Hernandez at ¶¶ 140-147. This appears to impose a limitation to CCD terminals when the patent describes CCD, CMOS (*id*. at 24:20-29) since other sensors that might not require an electrical charge to be stored or accumulated. CMOS on the other hand uses transistors that are sensitive to light.

The patent instead, uses the term "integration time" as a sampling method to make adjustments "to create more optimal pictures" ("The image processor 270 can send a signal to the integration time controller 300 for real-time, or near real time, dynamic range management *by adjustment of each channels integration time control*. This same method can be used to optimize a subsequent single field exposure for optimal picture taking") and to facilitate increased signal collection for a composite picture. *See id*. at 9:25-26 ("The integration time control on camera channel 260A is increased ***to allow increase signal collection***.") The '158 Patent explains that the integration time for each channel can be automatically controlled and/or controlled in response to a user input (3:50-52) and can be obtained simultaneously or nearly simultaneously, so undesirable temporal aliasing from moving scenes or camera motion is minimized. *Id*. at 4:50-64. The image processor 270 generates a combined image based at least in part on the images from two or more of the camera channels (8:63-66) for real-time, or near real-time dynamic range management by adjustment of each channel's integration time control. *Id*. at 9:11-14. For example, channel 260A is configured for low light, 260B for medium high, and 260C for high incident light. *Id*. at 10:4-8. The combined response provides a large dynamic range imaging capability in a single picture. *Id*. at 10:9-10. In other cases all settings can be configured for "low incident light levels." *Id*. at 11:7-10. Hernandez at ¶¶ 140-147. GM argues that the term "integration time" should be clarified so that it is not associated with the time it takes to *integrate* the data from different sensors into a single image, but the '158 patent describes the use of integration time control settings and post-

processing operations that are used to determine integration time on subsequent frames of data. *See id*. at Fig. 7 ("Determine integration time control settings that provide optimum dynamic range on subsequent frames of data using information of resultant image"); 11:40-43 ("Information of the resultant image and/or any post-processing operations is used to determine integration time control settings 710 that provide optimum dynamic range on subsequent frames of data but is not so limited."). Hernandez at ¶¶ 140-147. Thus, the '158 patent teaches using data to determine optimum dynamic range. The Court should reject GM's efforts to twist the construction of the term "integration time."

N. '158 Patent – "an image capture device" (Claim 1)

IV's Construction	GM's Construction
Plain and ordinary meaning, no construction necessary not indefinite	A digital device with multiple sensors that each capture a portion of the same image.

GM seeks to define the term "image capture device" so that it must consist of multiple sensors and the image that is captured must include a "portion of the same image." CC Br. at 21. However, the claims already include claim language that confirms that multiple sensors are used. For example, claim 1 claims "a plurality of sensors" and claim 9 claims "a plurality of channels, wherein each channel of the plurality of channels includes a sensor." *See* Ex. 18, '158 Patent at Claims 1 and 9; Hernandez at ¶¶ 148-153. Thus, the inclusion of multiple sensors is already claimed. GM argues that the term "image capture" is used only once to refer to a digital camera, which GM argues should mean that a POSITA would understand that the '158 Patent intends that multiple sensors with "different" integration times and that this construction is "critical." CC Br. at 22. This is incorrect. The '158 Patent specification does not limit the term image capture device to one using "different" integration times. The specification instead clearly states that the '158 Patent can be controlled automatically or in response to user input. Ex. 18, '158 Patent at 3:50-

52; Hernandez at ¶¶ 148-153. In other cases integration time for channels can be set to "low incident light levels." *Id*. at 11:7-10. There is simply nothing in the specification that would limit integration time to a "different time."

There is also no support for GM's argument that the sensors must "image *at least a portion of the same scene* using a different integration time." CC Br. at 22. Dependent claim 4 limits claim 1 to require each sensor to image the same field of view. *See* Ex. 18, '158 Patent at Claim 4. Claim 1 is thus, not limited to sensors that must capture a portion of the same image or the same field of view. The '158 Patent instead explains that for some embodiments, the processor may generate a combined imaged based, at least in part, on the images from two or more of such optical channels. *Id*. at 17:22-24; Hernandez at ¶¶ 148-153. There is simply no language that limits the capture of a "portion of the same image." CC Br. at 4. The Court should reject GM's construction.

O. '158 Patent – "an interface … configured to receive the integration time of the each sensor as an input to an image capture device"

Term	IV's Construction	GM's Construction
"an interface"	Plain and ordinary meaning, no construction necessary	A user device or connection external to the image capture device

A POSITA would know that an interface does not need to be a user device nor to be a connection that is external, simple an interface. GM begins its argument by claiming that the image capture device must be a digital camera. CC Br. at 23. This is incorrect since the patent includes other applications including video, security, and automotive applications. Ex. 18, '158 Patent at 15:12-24; Hernandez at ¶¶ 154-166. GM's construction is focused only on portions of the specification that include the modifier "user interface." *See id*. at 5:51-6:2; 6:43-53; 6:37-42; 7:4-9; 11:46-54; 12:28-37 (all using language "user interface"). The '158 Patent, uses the language "interface" with regards to input and output signals. Hernandez at ¶¶ 154-166. For example, the

'158 Patent explains that a camera interface and output interface that "processes signals that are in the form of high level language (HLL) instructions," "processes control signals that are in the form of low level language instructions and/or any other form now known or later developed," or that are used with one or more standard protocols. *See id.;* Ex. 18, '158 Patent at 22:53-23:7 and Fig. 32 (showing serial interface and HLL control interface). Thus, GM's effort to limit the term "interface" to "user interface" or to import the limitations that requires a user device or a connection external to the image capture device should be rejected because there is no clear and unmistakable disavowal or any reason in the '158 Patent that would support limiting the language.

P. '475 Patent - "violation"

IV's Construction	GM's Construction
Plain and ordinary meaning	***Old Construction***: non-compliance with a government law, rule, or regulation. ***New construction:*** non-compliance with an applicable law relating to vehicle speed.

GM argues that the applicant "clearly and unmistakably defined 'violation' based on the abstract, technical field and summary of the invention based on the use of the term 'present disclosure." CC Br. at 25. However, there was no clear and unmistakable disclaimer made with regards to the term "violation." A POSITA will know that a violation will mean a threshold value that represents a limit, hence a violation is simply exceeding a limit value, in this case speed as shown in FIG 3 element 314 and 316. Indeed, claim 3 limits the term violation to "a speed of the vehicle exceeding a posted speed limit:"

> The method of claim 1, wherein the violation committed by the vehicle comprises a speed of the vehicle exceeding a posted speed limit.

See Ex. 19, '475 Patent at Claim 3. *Baxalta Inc. v. Genentech, Inc.*, 972 F.3d 1341, 1346 (Fed. Cir. 2020) ("The plain language of these dependent claims weighs heavily in favor of adopting Baxalta's broader claim construction."). Moreover, the '475 discusses at great length the location

information module for determining "location information and speed" that "may calculate routes traveled, velocity, or speed of a vehicle including the device 100, etc., or alternatively, may send the position coordinates to the processing module 120 at a predetermined sampling period where the processing module will perform the calculations *See id*. at abstract; 4:19-38. The '475 Patent ultimately expresses the desire to use more than just speed as an analytical tool. *Id*. at 9:23-30 (what estimated percentage of vehicles are obeying or violating posted speed limits, average speed of travel for a certain time of day, or any combination of these and other requested variables."); 10:4-10 ("For example, if the average speed for a location is less than the speed limit minus a predetermined offset and only four vehicles have passed that location in the past hour, e.g., the density is below a predetermined density, the server will determine or estimate that bad weather is in the area and will generate a weather alert.") Because the patentee did not describe the features of the present invention as a whole, there is no limit on the scope of the invention.

Q. '608 Patent - "first user preference" (Claims 1-8, 10-14)

IV's Construction	GM's Construction
Plain and ordinary meaning which means "previously saved preference information"	"a preference from a first user preference profile"

The term "first user preference" has a plain and ordinary meaning that should govern which is "previously saved preference information". For example, the claims themselves use the term in accordance with its plain meaning. Claim 1, for example, describes "receiving a first user preference." In fact, a POSITA will understand that a user preference resides in a variable that may reside in non-volatile memory and nothing in the claims limits how that preference is stored or determined. The specification contemplates "profile ***or*** preferences" of the user (Ex. 20, '608 Patent at 2:45 (emphasis added)) as well as a "preference portfolio." *Id*. at 3:59. *See also, id*. at 16:11-12.

GM seeks to import limitations directed to "providing information on people, places and things that match one of the user's explicit preferences saved in the user preference profile" into the claims. CC Br. at 29. That is improper. *Kara*, 582 F.3d at 1348 ("we will not limit him to his preferred embodiment or import a limitation from the specification into the claims"). GM's construction, for example, seeks to improperly limit the claim to particular users.[10]

Moreover, the specification passages GM cites does not support its position. For example, GM admits that the patent contemplates "interests and preferences," "a preference portfolio," "expressed preferences," and a "user preference profile." CC Br. at 27-28. Rather, as explained above, the claims are not limited to particular way to store or determine a "first user preference," but can be any "Previously saved preference information."

R. '608 Patent – "a geographic area limitation" (Claims 1, 2, 5, 8, 9, 12)

IV's Construction	GM's Construction
Plain and ordinary meaning	"A geographic distance or shape supplied by a user for limiting the search for matching objects"

The term has a plain and ordinary meaning that should govern. For example, the claims themselves use the term in accordance with its plain meaning. Claim 1, for example, describes determining an object that is "within the geographic area limitation." Ex. 20, '608 Patent at Claim 1. The independent claims do not limit how the "geographic area" is determined. *See e.g., id.* Accordingly, the specification provides several non-limiting examples describing a geographic area limitation. These include, a "prescribed geographic area" (*id.* at 4:19-22, 3:34-37, 9:65-66); and an area "within a specified vicinity of the user." *Id.* at 7:15, 8:51-52, 9:7-14, 15:14-18, 16:32-33.

[10] GM misapplies the case law. CC Br. at 27. The case law GM cites requires "unmistakable statement of disavowal or disclaimer." *Pacing Techs., LLC v. Garmin Int'l, Inc.*, 778 F.3d 1021, 1025 (Fed. Cir. 2015). GM, however, points to no such disclaimer or disavowal.

The context of the other claims further supports the plain and ordinary meaning of the term. For example, several of the dependent claims specifically limit the "geographic area limitation." Claim 5, and other similar dependent claims, further restricts that element and provides that the "geographic area limitation is a distance from the mobile device of the first user, or a geometric shape centered on the mobile device of the first user." *Id*. at Claims 5, 12, and 19. The independent claims, however do not contain this limitation.

GM's proposed construction should be rejected because it seeks to import limitations into the claims, is inconsistent with the patent, and is confusing. For example, GM's construction seeks to restrict the geographic area limitation in ***all*** claims to either a "distance or shape," and is "for limiting the search for matching objects." CC Br. at 29. This attempt should be rejected because it seeks to limit the claims to an embodiment or import a limitation from the specification into the claims. *See e.g*., *Kara*, 582 F.3d at 1348.

GM appears to be taking out of context portions from various dependent claims, changing them, and then attempting to shoehorn them into ***all*** claims. *See e.g*., Ex. 20, '608 Patent at Claim 5 (including limitation wherein "the geographic area limitation is a distance from the mobile device of the first user, or a geometric shape centered on the mobile device of the first user"); *id*. at Claim 7 "determining further comprises identifying a plurality of matching objects"); *see also* CC Br. at 30 (GM essentially admitting that it seeks to import limitations from dependent claim 5 into all claims). That is improper. *Env't Designs, Ltd. v. Union Oil Co. of California*, 713 F.2d 693, 699 (Fed. Cir. 1983) ("[i]t is improper for courts to read into an independent claim a limitation explicitly set forth in another claim"). Therefore, GM's construction should be rejected.

GM's construction is also confusing. For example, GM's reference to a "shape supplied by a user" would only confuse the jury. It is unclear whether "shape" refers to any geographic

area (in which case the plain and ordinary meaning should apply) or whether GM seeks to limit "shape" to only include objects along a route or within boundaries on a map. GM's proPOSITAl of "the search" is also unclear because it does not specify what "search" it is referring to. Moreover, GM's own brief highlights some of the confusion with its own proPOSITAl. For example, GM acknowledges that the term includes "distance," but in the next paragraph argues "linear distances" are **not** included. CC Br. at 30. Finally, GM's construction makes previously simple and understandable claim terms far less clear. For example, inputting GM's construction into claim 5 would read as follows:

> The method of claim 1, wherein the [*geographic distance or shape supplied by a user for limiting the search for matching object*] is a distance from the mobile device of the first user, or a geometric shape centered on the mobile device of the first user.

See Ex. 20, '608 Patent at Claim 5 (GM's construction inputted in brackets). Because GM's construction is confusing, it should be rejected. *Kinetic Concepts, Inc. v. Wake Forest Univ. Health Scis.*, No. SA-11-CV-163-XR, 2013 WL 6164592, at *15 (W.D. Tex. Nov. 25, 2013) ("further defining the term would only add to the jury's confusion").

S. '608 Patent – "substantially real-time updates" (Claims 3 & 10)

IV's Construction	GM's Construction
Plain and ordinary meaning	indefinite

GM's indefiniteness arguments should be deemed waived because it was not disclosed as part of invalidity contentions. *See supra.* Additionally, a POSITA will know that an update cannot be real-time. Hernandez at ¶¶ 176-180. GPS requires communication with satellites. There is a delay based on the time it takes to send/receive signals and based on the position of the satellite along with delays in processing the information through queues, delays, *etc*. As a result, a POSITA

would understand the meets and bounds of the term "substantially real-time" entails. Hernandez at ¶¶ 176-180.

GM argues that term is indefinite because it is "purely subjective" and does not have an "objective standard for ascertaining [its] scope." CC Br. at 31. GM is incorrect for the reason explained above. First, as courts have explained, this exact term is ***not*** "purely subjective" but rather "is made of ordinary words that a juror would have no trouble understanding." *CallWave Commc'ns, LLC v. AT & T Mobility, LLC*, No. CV 12-1701-RGA, 2015 WL 3508991, at *8 (D. Del. June 3, 2015) (finding no construction necessary for "substantially real time"); *EdiSync Sys., LLC v. Adobe Sys., Inc.*, No. 12-CV-02231-MSK-MEH, 2017 WL 2610157, at *11-*12 (D. Colo. June 16, 2017) (finding "substantially real-time" not indefinite); *Foundry Networks v. Lucent Technologies, Inc.*, No. 2-04-cv-40-TJW, 2005 WL 6217420, at *4 (E.D. Tex. May 24, 2005) (finding no construction necessary for a phrase that included "substantially real-time"); *see also Tech Pharmacy Servs., LLC v. Alixa Rx LLC*, No. 4:15-CV-766, 2016 WL 6397358, at *18 (E.D. Tex. Oct. 28, 2016) (the court "expressly reject[ed] Defendants' indefiniteness argument" even though "the specification does not define specific boundaries for 'near' real-time").[11]

Second a POSITA reading the claims in the context of the patent would be informed about the scope of the invention with reasonable certainty. Hernandez at ¶¶ 176-180. For example, the patent provides description of "real-time GPS location-based systems." *Id.*; Ex. 20, '608 Patent at 4:56-59, 13:11-15. Clearly, *id.* at FIG 8 includes element 200, as "Access NMEA 0183 Sentences From GPS." A POSITA will understand that NMEA values are read in real-time and by

[11] The cases GM cites are distinguishable in that they do not use terms that have a meaning within the art and wholly "user-defined." *Intell. Ventures I LLC v. T-Mobile USA, Inc.*, 902 F.3d 1372, 1381 (Fed. Cir. 2018). Similarly, *Datamize*, cited by GM is distinguishable because it involved the "purely subjective phrase" "aesthetically pleasing," *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1351 (Fed. Cir. 2005), *abrogated by Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 134 S. Ct. 2120, 189 L. Ed. 2d 37 (2014).

processing steps 202 – 220, the delay associated with processing will make the information captured by the NMEA sentences, close to real-time.

T. '466 Patent

1. "first parameter," "second parameter," "third parameter," and "fourth parameter" (Claims 1, 3, 6, 8)

IV's Construction	GM's Construction
Plain and ordinary meaning, no construction necessary	The "first parameter," "second parameter," "third parameter," and "fourth parameter" are different parameters for a channel.

The Court should reject GM's proposal to import a limitation requiring all of the recited "parameters" to be fundamentally different in nature. Williams at ¶¶ 74-80 Each of claims 1 and 6 recites first, second, and third parameters: "A user equipment (UE)" or "method performed by a user equipment (UE)" comprising "… a first transmission including a **first parameter** corresponding to each of a plurality of channels and a second transmission including an allocation message for an uplink resource from the network device; … wherein resources are allocated for data of each channel having a **second parameter above zero** prior to another channel's data for transmission having a **third parameter less than or equal to zero**; and wherein the **second parameter** is derived from a first channel's **first parameter** and the **third parameter** is derived from a second channel's **first parameter**." Ex. 21, '466 Patent at claim 1 (emphases added). Thus, each channel has a "first parameter," some channels may have a "second parameter above zero," and other channels may have a "third parameter less than or equal to zero." Claim 1 requires the second and third parameters to be "derived from" first parameters of different channels, which means that the second and third parameters will be different in nature from the first parameter, but the claim never requires the second and third parameters to be different in nature from one another. Williams at ¶¶ 74-80.

Contrary to GM's argument, this is not a situation where the notion that "different claim terms are presumed to have different meanings" applies. *See* CC Br. at 33 (quoting *Bd. of Regents of the Univ. of Texas Sys. V. BENQ Am. Corp.*, 533 F.3d 1362, 1371 (Fed. Cir. 2008)).[12] Rather, claim 1 indicates that the second and third parameters will have different values ("above zero" vs. "less than or equal to zero") and are derived from first parameters of different channels. In that regard, dependent claim 3 further specifies how the second and third parameters are derived from the first parameter, stating that "the second parameter is derived by multiplying the first channel's first parameter with a fourth parameter and the third parameter is derived by multiplying the second channel's first parameter with the fourth parameter." Accordingly, the second and third parameters are calculated in the same way: by multiplying their respective first parameters by a fourth parameter. The '466 Patent never forbids the second and third parameters from being, for example, the same variable but with different values in different channels.[13]

2. "wherein resources are allocated for data of each channel [of a radio bearer] having a second parameter above zero [before/prior to] another channel's data for transmission having a third parameter less than or equal to zero" (Claims 1 and 6)

IV's Construction	GM's Construction
Updated Proposal: "wherein resources are allocated for a first set of data before any are allocated for a second set of data, where the first set of data is the data of each channel of a radio bearer having a second parameter above zero and the second set of data is another channel's data-for-transmission having a third parameter less than or equal to zero"	Plain and ordinary meaning

[12] GM's other cited case law is also inapposite. The *CAE* case concerned significantly different terms that were further distinguished during prosecution. *CAE Screenplates, Inc. v. Heinrich Fiedler GmbH & Co.*, 224 F.3d 1308, 1317-18 (Fed. Cir. 2000) (holding that the claim term "bottom plane" meant something more specific than "the broader [term] 'bottom' of the groove."). The *Applied* case simply reiterated, in a footnote, *CAE*'s holding, without conducting any claim construction analysis. *Applied Med. Res. Corp. v. U.S. Surgical Corp*., 448 F.3d 1324, 1333 n.3 (Fed. Cir. 2006). And unlike with the recited "IP addresses" in *Bushnell*, the claims of the '466 patent do not expressly state that the recited parameters must be "different." *Bushnell Hawthorne, LLC v. Cisco Sys., Inc.*, 813 F. App'x 522, 526 (Fed. Cir. 2020).

[13] GM's argument about how the claims could have alternatively been written (CC Br. at 34) falls flat, because it wrongly assumes that IV contends that the claims necessarily require the second and third parameters to be the same variable. Rather, the claims are broad enough to permit these parameters to be the same or different variables.

The Eastern District of Texas has already construed this same claim phrase in the '466 Patent. *See Intell. Ventures II LLC v. Sprint Spectrum L.P.*, No. 2:17-CV-662-JRG-RSP, 2018 WL 6018625, at *12-14 (E.D. Tex. Nov. 16, 2018). In that case, Sprint argued that the claim phrase required that "resources must be allocated such that transmission of the data of each channel [of a radio bearer] having a second parameter above zero takes place before transmission of data of another channel [of a radio bearer] having a third parameter less than or equal to zero," whereas IV asserted that the claim phrase required only that the "allocation of resources for the data of each channel of a radio bearer having a second parameter above zero is provided before the allocation for another channel's data for transmission having a third parameter less than or equal to zero." *Id*. at *12-13 (emphasis added) ("The dispute is whether this term requires transmission of one set of data (with a second parameter above zero) before transmission of another set of data (with a third parameter less than or equal to zero)."). The District Court rejected Sprint's arguments and ultimately "agree[d] with Plaintiff that 'for transmission' is an attribute of the 'another channel's data' [and] does not mandate that data with the second parameter greater than zero is necessarily transmitted before the data with the third parameter less than or equal to zero." *Id*. at *13. In light of the claim language and patent specification, the District Court construed the disputed claim phrase to mean "wherein resources are allocated for a first set of data before any are allocated for a second set of data, where the first set of data is the data of each channel of a radio bearer having a second parameter above zero and the second set of data is another channel's data-for-transmission having a third parameter less than or equal to zero." *Id*. at *14; *see also* Williams at ¶¶ 81-2.

The Court should adopt the Eastern District's construction, which helpfully clarifies what the disputed claim phrase means and what it does not mean.[14] GM has not proposed any construction for this claim term, nor does its briefing provide any substantive reason to reject the District Court's construction from the *Sprint* case.

U. '628 Patent - "Store video data in the buffer"

IV's Construction	GM's Construction
Plain and ordinary meaning	Store video data in a loop buffer for a predetermined time of at least a few seconds to several minutes.

GM seeks to improperly import limitations into the term "store video data in the buffer." But, GM does not come close to showing a clear indication in the intrinsic record that the patentee intended the claims to be so limited. *Liebel-Flarsheim Co. v. Medrad, Inc*., 358 F.3d 898, 913 (Fed. Cir. 2004) ("[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited.") GM argues that the patentee defined the limitation in two ways. First, GM argues the term "buffer" means "loop buffer" only. *See* CC Br. at 36. Second, GM argues that the loop buffer must "store video data in a loop buffer for a predetermined time of a few seconds to a few minutes." *Id*. Because GM has not shown a clear indication that the patentee intended to limit the claims in this way, the Court should deny GM's constructions and construe the term under its plain meaning.

In this case, the claims themselves show that the term "buffer" is broader than the term "loop buffer." *K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1362 (Fed. Cir. 1999) ("The general rule is that terms in the claim are to be given their ordinary and accustomed meaning.") Claim 6 uses the term "loop buffer." Claim 1 uses the broader term "buffer." *Compare* claim 1 ("store

[14] IV originally proposed the same construction it had proposed in the *Sprint* case, but has updated its proPOSITAl here to match the language that was ultimately adopted in *Sprint*.

video data in the buffer") with claim 6 ("storing, in a loop buffer of a video recorder"). It is settled law that you cannot read a limitation present in another claim without the express reference to that limitation. *SRI Intern. v. Matsushita Elec. Corp. of America*, 775 F.2d 1107, 1122 (Fed. Cir. 1985) (en banc) ("It is settled law that when a patent claim does not contain a certain limitation and another claim does, that limitation cannot be read into the former claim in determining either validity or infringement.") As a result, the term "buffer" should be read broader than the narrow term "loop buffer."

GM argues that the specification only uses the term "loop buffer." CC Br. at 37. GM also argues that references in the specification that discuss the loop buffer with regards to the preferred embodiment restrict the use of the term "buffer." *Id*. However, GM merely identifies portions of the '628 specification that discuss the preferred embodiment of the '628 Patent, which indisputably uses a loop buffer. However, the preferred embodiment, even if the only embodiment disclosed in the patent does not serve to limit the claim term when there is no clear disavowal. *Northrop Grumman Corp. v. Intel Corp*., 325 F.3d 1346, 1354–56 (Fed. Cir. 2003) (reversing construction of the term "bus interface unit" to require a specific unit connected to a command/response system as shown in the preferred embodiment because that construction contradicted the plain meaning and there was no clear disavowal of claim scope to justify the narrow construction). Although the specification does not refer to other types of buffers, it is not enough for a patentee to use a word in the same manner in all embodiments without express intent. *Thorner v. Sony Computer Entm't Am*. LLC, 669 F.3d 1362, 1366 (Fed. Cir. 2012) (finding use of the term "attached" in specification only when referring to outer side was not either lexicography or disavowal). In this case, the specification itself confirms that the patentee did not intend to limit the invention to specific embodiments. The '628 specification states that "other systems, methods, and/or computer

program products" would be apparent to one skilled in the art and that it was intended to include all such systems, methods, and/or computer program products." *See* Ex. 22, '628 Patent at 2:44-51.

V. '138 Patent - "wherein the selection of the data occurs using a first iteration and a second iteration" (Claims 1 and 8)

IV's Construction	GM's Construction
Plain and ordinary meaning	Wherein the selection of the data occurs by repeating the same steps twice
Not Indefinite	Indefinite

GM's proposed construction seeks to replace the terms "first iteration and a second iteration" which is clear on its face to "repeating the same steps twice." First, the construction is wrong because it is contradicted by the claims themselves:

> select data from the plurality of radio bearers for transmission using the single allocation of uplink resources, ***wherein the selection of the data occurs using a first iteration and a second iteration***,
>
> wherein in the ***first iteration, the selection of the data is selected from a subset of the plurality of radio bearers*** based on the received parameters,
>
> wherein in the second iteration, ***the selection of the data is based on buffered data for respective radio bearers***, and

GM's construction makes no sense in view of the surrounding claim language since the terms "first limitation" and "second limitation" are defined to require different requirements for the selection of the data, but GM's proposed construction requires the selection of data to repeat "the same steps twice." *Chimie v. PPG Industries*, Inc., 402 F.3d 1371, 1377 (Fed. Cir. 2005) ("Claim construction begins with the intrinsic evidence of record, looking first to the claim language itself to define the scope of the patented invention.") The portion of the specification that GM refers to does not indicate that the selection of the data occurs by repeating the "same steps" and neither does Figure 6. Thus, there is no clear and unmistakable disavowal that would warrant the importation of the limitation "by repeating the same steps twice." Hernandez at ¶¶ 169-174.

GM uses is incorrect construction to argue the larger limitation is indefinite. GM argues that iteration means the same steps (CC Br. at 39) and then argues that when read together, the claims "could be interpreted such that the first iteration and the second iteration are using different steps. *Id.* at 40. GM's position seeks only to propose a construction that advances its argument for indefiniteness. The Court should not allow GM to construe the claims to render them indefinite.

W. Alleged Section 112, ¶6 Functional Claiming

1. '771 Patent: "local content module …" (claim 4)

IV's Construction	GM's Construction
Not subject to §112(f), not indefinite	Subject to §112(f); Indefinite

The Court should adopt this claim term's plain and ordinary meaning and reject GM's means-plus-function and indefiniteness arguments. Hernandez at ¶¶ 71-80. Because this term does not contain the word "means," the Court must give effect to the presumption against applying § 112, ¶ 6, rebuttable only "if the challenger demonstrates that the claim term fails to recite sufficiently definite structure or else recites function without reciting sufficient structure for performing that function." *Zeroclick, LLC v. Apple Inc.*, 891 F.3d 1003, 1007 (Fed. Cir. 2018) (citation omitted). "In determining whether this presumption has been rebutted, the challenger must establish by a preponderance of the evidence that the claims are to be governed by § 112, ¶ 6." *Id*. (citation omitted). GM cannot rebut this presumption.

GM is wrong that the disputed claim language is "purely functional." CC Br. at 43. Rather, the express language of the claim, requiring the "local content module" to "store[] content that can be accessed by said client devices directly through said high-speed access point," connotes sufficient structure to avoid means-plus-function treatment. This claim language indicates to a POSITA that a "local content module" contains memory that allows content to be "store[d]" locally on the claimed mobile wireless hot spot system and "accessed by … client devices."

Hernandez at ¶¶ 71-80.[15] Computer memory is a well-known structural component of electronic devices, and storing data on memory and accessing it from memory is a basic core function of computers. *Id*. *See Sightsound Techs., Inc. v. Apple, Inc.*, No. 2:11-cv-01292-DWA, 2012 WL 12896175, at *23 (W.D. Wa. Nov. 19, 2012) ("The ability to store data in and retrieve data from memory is a basic function of computers."). Moreover, claim 3 indicates structure that user devices can access it through high speed access point.

Contrary to GM's suggestion (CC Br. at 43), "*Williamson* does not … stand for the broad proposition that the term 'module' automatically places it among terms such as 'means' and 'step for,' thus triggering a presumption that § 112(f) applies." *Blast Motion, Inc. v. Zepp Labs, Inc.*, No. 15-CV-700 JLS (NLS), 2017 WL 476428, at *14 (S.D. Cal. Feb. 6, 2017) (holding that "data storage module" is not a means-plus-function term). Rather, unlike in *Williamson*, claim 4's local content module's recited function of "stor[ing] content that can be accessed by said client devices directly through said high-speed access point" simply involves a normal use of computer memory that can be accomplished by a general-purpose computer without special programming. *See In re Katz Interactive Call Processing Pat. Litig.*, 639 F.3d 1303, 1316 (Fed. Cir. 2011) (finding no invocation of § 112, ¶ 6 where the recited "functions can be achieved by any general purpose computer without special programming").

Even if, *arguendo*, the "local content module …" term invoked § 112, ¶ 6, it would not be indefinite. The '771 Patent's specification states that "[t]he MHS [*i.e.*, Mobile Hotspot System] can also include content stored locally on the MHS instead of being retrieved over the WAN Internet connection. Such content can be retrieved by the user much faster than via the WAN."

[15] A claim's invocation of computer memory does not trigger § 112, ¶ 6. Indeed, the Federal Circuit has held that "memory"—even when coupled with the word "means"—has sufficient structural meaning to avoid § 112, ¶ 6 treatment. *TecSec, Inc. v. Int'l Bus. Machines Corp.*, 731 F.3d 1336, 1347-48 (Fed. Cir. 2013).

Ex. 23, '771 Patent at 2:33-36. While the specification discloses a variety of other functions that a Local Content Module can perform (*id*. at 4:21-36, 57-62), the only claimed function is to "store[] content that can be accessed by said client devices directly through said high-speed access point," which a POSITA would understand would be achieved using memory. Hernandez at ¶¶ 71-80. Unlike in *Williamson*, the disclosure of a specific algorithm for the basic storage/access function of memory is not required. *See In re Katz*, 639 F.3d at 1316.

2. '318 Patent: "processor configured to …" (claim 8)

IV's Construction	GM's Construction
Not subject to §112(f), not indefinite	Subject to §112(f); Indefinite

The Court need not construe the "processor" phrase in claim 8[16] of the '318 Patent beyond its plain and ordinary meaning, and should reject GM's means-plus-function and indefiniteness arguments. This term does not contain the word "means," and GM cannot rebut the presumption against invoking § 112, ¶ 6. *Zeroclick*, 891 F.3d at 1007.

Claim 8 recites a "system, comprising: [1] a first queue configured to store data frames to be transmit ted during a transmitting station's transmit opportunity, wherein the transmit opportunity corresponds to a length of time during which the transmitting station will transmit data frames from the first queue to a shared-communications channel, …; [2] *a processor configured to determine the length of time of the transmit opportunity based on a priority of the first queue*." As indicated, the claim language recites structure; the claimed "processor" is configured to determine the transmit opportunity's "length of time" recited in the first claim element (*i.e.*, the "first queue") based on the first queue's priority.

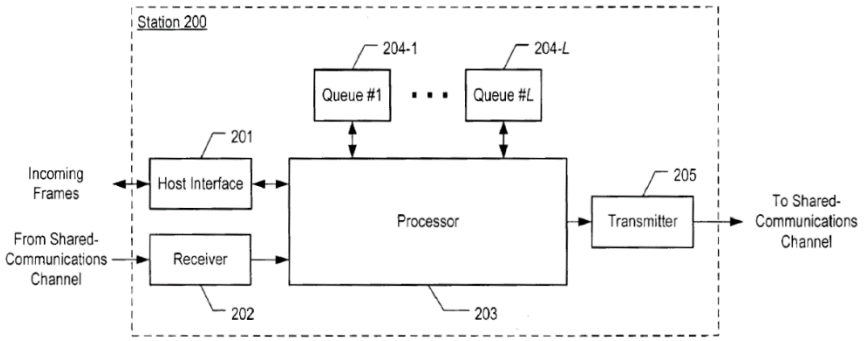
[16] GM's brief incorrectly states that this claim phrase is found in claim 1.

A POSITA would understand the claimed "processor" to refer to a class of structures well-known in the art. Williams at ¶¶ 129-137. Indeed, "'processor' is not a 'nonce' term but rather connotes a class of structures." *Cellular Commc'ns Equip. LLC v. AT&T, Inc.*, No. 2:15-cv-576, 2016 WL 7364266, at *15-16 (E.D. Tex. Dec. 19, 2016) (internal citation omitted). "A 'processor' in the computer arts is commonly understood to refer to the component of a computer that executes software instructions and performs computations." *Typemock, Ltd. v. Telerik, Inc.*, No. 17-cv-10274, 2018 WL 4189692, at *7 (D. Mass Aug. 31, 2018). "[A]s … courts have noted, a processor generally refers to a tangible object that can be purchased and that can perform certain functions even without specific instructions. Thus, unlike terms such as 'means,' 'element,' and 'device' that typically do not connote structure, 'processor' can on its own recite at least some structure to persons of ordinary skill in the art." *Fisher-Rosemount Sys., Inc. v. ABB Ltd.*, No. 4:18-cv-178, 2019 WL 6830806, at *16 (S.D. Tex. Dec. 12, 2019) (internal citation omitted). "The term processor is 'not used as generic terms or black box recitations of structure or abstractions, but rather as [a] specific reference' to processors that are known in the art." *Id.* (quoting *Zeroclick*, 891 F.3d at 1008).[17] Claim 8 connotes sufficient structure about the claimed "processor."

Even if, *arguendo*, the Court were to find the "processor" claim phrase to invoke § 112, ¶ 6, the phrase is not indefinite. Rather, the patent provides guidance sufficient for a POSITA to reasonable understand the how the processor can be configured to perform the recited function of "determine the length of time of the transmit opportunity based on a priority of the first queue."

[17] *See also, e.g., Clear Imaging Research, LLC v. Samsung Elecs. Co., Ltd.*, No. 2:19-CV-00326-JRG, 2020 WL 6384731, *8-9 (E.D. Tex. Oct. 30, 2020) (holding "processor … configured to …" did not invoke § 112, ¶ 6 (was not indefinite) because "processor" was "not a nonce term" and was "accorded its customary meaning of a class of structures on which software can run"); *Huawei Techs. Co. Ltd. v. T-Mobile US, Inc.*, No. 2:16-cv-57-JRG-RSP, 2017 WL 2691227, at *25-27 (E.D. Tex. June 22, 2017) (similar); *SyncPoint Imaging, LLC v. Nintendo of Am. Inc.*, No. 2:15-cv-247-JRG-RSP, 2016 WL 55118, at *19-20 (E.D. Tex. Jan. 5, 2016) (similar).

The patent's Fig. 2 (reproduced to the right) "depicts a block diagram of the salient components of an IEEE 802.11 [local area network] station in accordance with the illustrative embodiment of the present invention." Ex. 10, '318 Patent at Fig. 2, 2:52-54. Fig. 2 and the corresponding portion of the specification show and explain how the processor (203) interacts with the station's other components, including the host interface (201), receiver (202), queues (204), and transmitter (205). *Id*. at Fig. 2, 2:55-3:24. With regard to the processor (203), the specification states: "Processor 203 is a general-purpose processor that is capable of performing the tasks described below and with respect to FIGS. 3 and 4. It will be clear to those skilled in the art, after reading this specification, how to make and use processor 203." *Id*. at 3:6-10. A POSITA would understand from Fig. 2 and these portions of the specification that "processor" refers to a general computer processor, a class of structures that are known in the art, and how it interacts with the station's other components. Williams at ¶¶ 129-137.



The specification further explains how the processor works to carry out its claimed function through task 304 of Fig.3, which "depicts a flowchart of the salient tasks performed by the illustrative embodiment of the present invention." Ex. 10, '318 Patent at 3:25-5:3; *see* Williams at ¶¶ 129-137. The flowchart begins with task 301, where "host interface 201 receives data and instructions from a host that indicate that the data is to be transmitted onto the shared-communications channel and that the data is associated with application i." Ex. 10, '318 Patent at 3:27-30. Then, "[a]t task 302, processor 203 receives the data from host interface 201, divides the

data into frames, in well-known fashion, and queues the frames onto the end of queue 204-i." *Id*. at 3:31-33. "At task 303, station 200 acquires, in well-known fashion, an opportunity to transmit one or more frames associated with application i[,]" and "[p]rocessor 203 continually determines from which one of queues 204-1 through 204-L to next draw frames at the next transmission opportunity." *Id*. at 3:34-63.

Task 304 relates to the processor's function recited in claim 8 of determining the length of time of the transmit opportunity based on a priority of the first queue. *Id*. at 3:64-4:36; Williams at ¶¶ 129-137. The specification explains: "At task 304, processor 203 determines the amount of time, T_i, that is to be afforded to the transmission of frames for queue 204-i at this transmission opportunity." Ex. 10, '318 Patent at 3:64-66. With regard to T_i (*i.e.*, the length of time of the transmit opportunity associated with application i), the specification states that "[t]he value of T_i can be static or dynamic and can be the same for each station or different at each station[,] and that "each station determines its own values for T_i for each queue, and the value is updated periodically or sporadically." *Id*. at 3:66-4:4.

The specification provides details about how the processor can determine T_i:

> In accordance with the illustrative embodiment of the present invention, the value for T_i is based on:
>
> i. the number of queues that have frames queued for transmission, or
>
> ii. the number of frames queued in queue 204-i, or
>
> iii. the latency tolerance of application i, or
>
> iv. the throughput requirements of application i, or
>
> v. the current number of frames queued in queue 204-i divided by N_i, or
>
> vi. any combination of i, ii, iii, iv, and v.

Id. at 4:4-14. As an example, the specification states that "applications that are more latency intolerant might be given larger values of T_i than applications that are less latency tolerant and applications that have greater throughput requirements might be given larger values of T_i than

applications that have lesser throughput requirements. It will be clear to those skilled in the art, after reading this specification, how to determine and use other criteria for establishing T_i for application i." *Id*. at 4:14-21. The specification further explains: "To accomplish task 304, processor 203 advantageously maintains a table that correlates T_i and the number of frames queued in each queue to i. Table 1 depicts an illustrative version of this table." *Id*. at 4:22-36.

In light of this guidance, a POSITA would recognize the patent to disclose an algorithm with which a processor can be configured to determine the length of time of the transmit opportunity based on a priority of the first queue. Williams at ¶¶ 129-137. GM cannot show clear and convincing evidence otherwise.

3. '356 Patent: "processor … configured … to …" (claim 1)

IV's Construction	GM's Construction
Not subject to §112(f), not indefinite	Subject to §112(f); Indefinite

This is standard UMTS Language defined in many 3GPP specifications defines the terms of the claim that GM says are indefinite. Williams at ¶¶ 107-112. For example, FIG 5 of the patent, clearly describes DL frames for downlink and UL frames for uplink channels that the claim cites. *Id*. Additionally, a POSITA will understand the use of a processors within a device that is also disclosed as part of UE or User Equipment (e.g. mobile phone) as shown in FIG. 1 in the specification. *Id*. In fact. The '356 Patent specifications cite the use of the 3GPP TR 23.882 V1.12.0 (2007-10) at 1:54-60, where in many figures including Figure D. 4 at Pg. 159. Where the User Equipment (UE) is also described by the specification of the '356 Patent at FIG 1 element 110, where a POSITA will understand contains a processor or CPU to handle all communications.

A POSITA will also know that all stage machines and sequence diagrams shown in the 3GPP TR 23.882 V1.12.0 (2007-10) have to be implemented using a processor or a computer

within the UE's main board. The control signals that requited a processor are depicted in FIG 1 and described in more detail at the 3GPP UMTS technical specifications, such as TS23.246 v6.4.0" Similarly, *id*. at 2:34-34 makes reference to the Physical Layer Common Control Channel or PLCCH that "carries feedback information to the UE" which can only be processed by a processor.

For similar reasons as discussed above, the Court should adopt the plain and ordinary meaning of the "processor … configured" phrases in claim 1 of the '356 Patent and reject GM's means-plus-function and indefiniteness arguments. The "processor" phrases do not use the word "means," and GM cannot rebut the presumption against invoking § 112, ¶ 6. *Zeroclick*, 891 F.3d at 1007.

Claim 1 recites structure sufficient to support the processor's recited functions. Claim 1 is directed to "[a] user equipment (UE) comprising: a processor" configured as set forth in the claim. The various recited configurations indicate what information/data the processor is configured to send over a physical uplink shared channel or receive, *e.g.*, from a downlink control channel. As with "processor" in the previously discussed patents, a POSITA would understand the claimed "processing component" to refer to a computer processor, a class of structures well-known in the art. Williams at ¶¶ 107-112; *see, e.g.*, *Cellular Commc'ns*, 2016 WL 7364266, at *15-16; *Fisher-Rosemount*, 2019 WL 6830806, at *16. The claim also provides sufficient information about the processor's configured operations, inputs, and outputs, including its receipt of resource allocation information, transmission of data in assigned time intervals over a physical uplink shared channel,

and, when not sending data, transmission of a signal based on the resource allocation information over an uplink physical control channel. Williams at ¶¶ 107-112.

But even if, *arguendo*, the "processor" claim phrases invoked § 112, ¶ 6, the phrases are not indefinite. With reference to Fig. 5 (reproduced to the right), the specification explains that "[c]omputing system 500 can include one or more processors, such as a processor 504. Processor 504 can be implemented using a general or special purpose processing engine such as, for example, a microprocessor, microcontroller or other control logic. In this example, processor 504 is connected to a bus 502 or other communications medium." Ex. 17, '356 Patent at 7:56-61. The specification also describes how the processor interacts with other structural components of the computing system, including "a main memory 508 … for storing information and instructions" and "temporary variables or other intermediate information during execution of instructions to be executed by processor 504" "to cause the processor to perform specified operations," including "the functions of the invention." *Id*. at 7:62-8:4, 8:48-9:5. Clearly, the GGSN (*id*. at 3:42-52) describes a computing device that is processing data from the mobile terminals UE. The User Equipment is a processing component as well as the GGSN device. As shown in FIG 1, the UE or the mobile terminal, processes data that the GGSN has transmitted from the internet or the Core Network to the Radio domain (RAN) and Node-B's (Element 112) all the way down to the UE (Element 110).

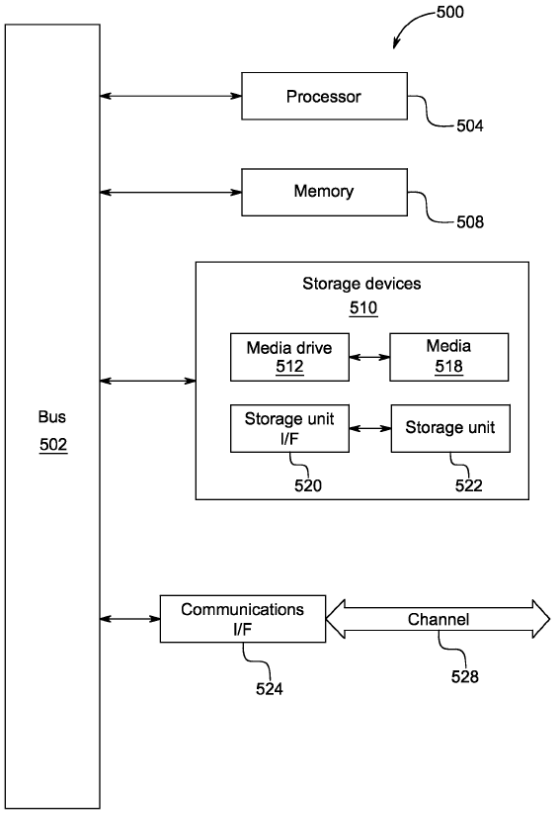


FIG. 5

Further, the "processor" in the claim limitations would be readily understood as a processor (e.g., the processor discussed above with reference to FIG. 5) that is optimized for use in wireless digital communications and wireless networks such as those in compliance with, e.g., technologies related to Time division-code division multiple access (TD-CDMA). As one example, a processor in the claim limitations may correspond to the disclosed structure of a processor of a computing system that may be used in the radio controllers, the base stations, and the UEs. *Id*. at 7:44-48. As another example, such as processor may correspond to the disclosed structured of the "control logic" of such exemplary system's processor that, "when executed by the processor 504, causes the processor 504 to perform the functions of the invention as described herein." *Id*. at 9:1-5; Williams at ¶¶ 107-112. Accordingly, GM cannot prove by clear and convincing evidence that the "processor" claim phrases are indefinite.

Accordingly, GM cannot prove by clear and convincing evidence that the "processor" claim phrases are indefinite.

4. '641 Patent: "circuitry configured to …" (claim 11) / "mobile station is configured to …" (claims 11 and 25)

IV's Construction	GM's Construction
Not subject to §112(f), not indefinite	Subject to §112(f); Indefinite

The Court should adopt the plain and ordinary meaning of the "circuitry configured to" and "mobile station is configured to" phrases in claims 11 and/or 25 of the '641 Patent, rejecting GM's means-plus-function and indefiniteness arguments. Williams at ¶¶ 85-98. These claim phrases do not use the word "means," and GM cannot rebut the presumption against invoking § 112, ¶ 6. *Zeroclick*, 891 F.3d at 1007.

The Federal Circuit has repeatedly held that the terms "circuit" and "circuitry" connote structure and are not subject to 35 U.S.C. § 112 ¶ 6 when coupled with a description of the circuit's

operation. For example, in *Linear Technology Corp. v. Impala Linear Corp.*, 379 F.3d 1311 (Fed. Cir. 2004), the Federal Circuit reasoned that the technical dictionaries "plainly indicate that the term 'circuit' connotes structure," and "[t]hus, when the structure-connoting term 'circuit' is coupled with a description of the circuit's operation, sufficient structural meaning generally will be conveyed to persons of ordinary skill in the art, and § 112 ¶ 6 presumptively will not apply." *Id*. at 1320. After analyzing the claims at issue, the Federal Circuit "h[e]ld that because the term 'circuit' is used in each of the disputed limitations … with a recitation of the respective circuit's operation in sufficient detail to suggest structure to persons of ordinary skill in the art, the 'circuit' and 'circuitry' limitations of such claims are not means-plus-function limitations subject to 35 U.S.C. § 112 ¶ 6." *Id*. at 1320-21.

Since *Linear*, the Federal Circuit has consistently confirmed that "circuit"/"circuitry" connotes sufficient structure. *See, e.g.*, *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc*., 711 F.3d 1348, 1365 (Fed. Cir. 2013) (The claim's description of "an input to the circuit …, a straightforward function …, and an output … is sufficient structure in the context of the claimed invention to avoid the ambit of means-plus-function claiming."); *Mass. Inst. of Tech. & Elecs. for Imaging, Inc. v. Abacus Software*, 462 F.3d 1344, 1355-56 (Fed. Cir. 2006) ("[T]he term 'circuitry,' by itself, connotes structure…. The claim language here … adds further structure by describing the operation of the circuit[, including] [t]he circuit's input …; its objective …; and its output… This description of the operation of the circuit is sufficient to avoid 112 ¶ 6").

So, too, here. As acknowledged by the case law and reflected in dictionaries,[18] "circuitry," as recited in claim 11 of the '641 Patent, connotes structure in-and-of itself. Williams at ¶¶ 85-

[18] *E.g.*, Ex. 25, WEBSTER'S AMERICAN DICTIONARY, COLLEGE EDITION (1997) (defining "circuit" as "the complete path of an electric current, including the generating apparatus, intervening resistors, or capacitors"; and defining "circuitry" as "the components of an electric circuit" or "the plan or system of such a circuit"); Ex. 26, THE IEEE STANDARD DICTIONARY OF ELECTRICAL AND ELECTRONICS TERMS 156 (6th ed. 1997) (defining "circuit" as "[a]

98. Claim 11 describes the operation of the claimed "circuitry" in sufficient detail to suggest its structure to a POSITA, including its input (broadcast information in a first band having a first bandwidth), its function (*e.g.*, to access an orthogonal frequency division multiple access (OFDMA) system and determine a second bandwidth of a second band that is associated with the OFDMA system"), and its output (a second bandwidth that is associated with the OFDMA system). Williams at ¶¶ 85-98. Accordingly, the "circuitry" terms do not invoke § 112, ¶ 6. *See Intellectual Ventures I LLC v. HP Inc.*, No. 6:20-cv-00624-ADA, Dkt. 45 at 2-3 (W.D. Tex. May 3, 2021) (construing numerous "circuitry" terms not to invoke § 112, ¶ 6).

The "mobile station" terms recited in claims 11 and 25 similarly connote sufficient structure and do not invoke § 112, ¶ 6. Each of these claims concludes with the limitation, "the mobile station is configured to operate within the plurality of operating channel bandwidths." As a preliminary matter, GM's brief fails to identify any actual purported deficiency in the structure of the claimed "mobile station." In any event, the plain and ordinary meaning of "mobile station" alone connotes structure (a wireless user device such as a cellular phone), and GM does not appear to contend otherwise. Williams at ¶¶ 85-98.[19] In addition to the disputed claim language, the claims elsewhere require the mobile station to interact with a plurality of operating channel bandwidths, for example, by receiving (or being configured to receive) "broadcast information … in a first band having a first bandwidth [that] is carried by a plurality of groups of subcarriers with each group having a plurality of contiguous subcarriers; … wherein the number of usable

conductor or system of conductors through which an electric current is intended to flow"); Ex. 27, IBM DICTIONARY OF COMPUTING 104 (10th ed. 1994) (defining "circuit" as "[o]ne or more conductors through which an electric current can flow"); MICROSOFT COMPUTER DICTIONARY 99 (5th ed. 2002) (defining "circuit" as "[a]ny path that can carry electrical current" or "[a] combination of electrical components interconnected to perform a particular task…")

[19] *See, e.g., HTC Corp. v. IPCom GmbH & Co.*, 667 F.3d 1270, 1273 (Fed. Cir. 2012) ("A cellular telephone — called a 'mobile station' in the patent — maintains a link with a tower — called a 'base station.'"); *TracBeam, L.L.C. v. T-Mobile US, Inc.*, No. 6:11-CV-96, Dkt. 256 at 6-8 (E.D. Tex. July 14, 2016) (construing "mobile station" to mean "a mobile wireless device that is at least a transmitting device and may include a receiving device").

subcarriers is determined based on a plurality of operating channel bandwidths, and wherein the first band is defined [in relation to] the plurality of operating channel bandwidths …" *Id.* Like with "circuitry," in the context of the claims, a POSITA would understand the structure involved in configuring a mobile station to operate within the plurality of operating channel bandwidths. *Id.*

Even to the extent, *arguendo*, any of the disputed terms of the '641 Patent are means-plus-function, they are still not indefinite. A POSITA would understand the structure involved in configuring a mobile station as claimed, especially in light of the patent's specification, which provides further details about the mobile station's relevant operations. *See, e.g.* Williams at ¶ 97 (providing examples). GM cannot satisfy its burden of proof of showing indefiniteness by clear and convincing evidence.

5. '158 Patent: "processing component … configured to" (claims 1, 5, and 9)

IV's Construction	GM's Construction
Not subject to §112(f), not indefinite	Subject to §112(f); Indefinite

The Court should adopt the plain and ordinary meaning of the "processing component" phrases in the '158 Patent and reject GM's means-plus-function and indefiniteness arguments. The "processing component" phrases do not use the word "means," and GM cannot rebut the presumption against invoking § 112, ¶ 6. *Zeroclick*, 891 F.3d at 1007.

"Processing component" is not a nonce word. As used in the claim, the claim language recites structure. For example, claim 1 requires that the processing component be "configured to control an integration time of each sensor." A POSITA, reading the claim in context, would understand the term to connote structure, as explained further below.

Indeed, courts have found similar claim terms to have sufficiently definite structure when coupled with operational context. *See, e.g., Samsung Elecs. Am., Inc. v. Prisua Eng'g Corp.*, 948 F.3d 1342, 1353-54 (Fed. Cir. 2020) ("digital processing unit" not governed by § 112, ¶ 6 and not indefinite); *Zeroclick*, 891 F.3d at 1008 ("program that can [perform function]" found to have sufficiently definite structure in part because the claims provided operational context for the program); *Huawei Techs. Co. v. Verizon Commc'ns, Inc.*, No. 2:20-CV-30, 2021 WL 150442, at *32-33, *54-55 (E.D. Tex. Jan. 15, 2021) ("processing unit" and "processing module" not governed by § 112, ¶ 6 and not indefinite); *CXT Sys., Inc. v. Acad., Ltd.*, No. 2:18-CV-171, 2019 WL 4253841, at *11 (E.D. Tex. Sept. 6, 2019) ("processing module for processing" not governed by § 112, ¶ 6 and not indefinite).

A POSITA would understand the claimed "processing component" to refer to computer circuitry and programming for processing data to perform operations. Hernandez at ¶¶ 154-166. In the context of claims, the "processing component" must be configured to "to control an integration time of each sensor" (claim 1), "to combine data from the plurality of sensors received to provide an image" (claim 5), or "to determine an integration time of each channel of the plurality of channels" and "to combine data from the plurality of channels received to provide an image" (claim 9). In each instance, the claim indicates to a POSITA the processing component's operations, including the input (1: signals from sensors; 5: data from sensors; 9: signals and data from sensors); the function (1: controlling integration time; 5: combining data to provide an image; 9: determining integration time and combining data to provide an image); and the output (1: control signals regarding integration time; 5: an image based on the combined data; 9: integration time determination and an image based on combined data). Hernandez at ¶¶ 154-166. Such control signals, image-based data are depicted in FIG 4 as the integration time controller (Element 300),

image processor (Element 270) as well as many other embodiments in FIG 5. Clearly the reference made to the "once numerous images have been taken" several techniques can be used to "fuse" the images and references to U.S. Pat. Nos. 4,647.975, 5,168,532, and 5,671,013 are made. These patents require image capture processing and integration time control. Additionally, Figures 20A, 20B, 20C, 20D up to Figure 21, depict different types of processing components that issue control signals. The patent describes in FIG 20A at 21:35-45.

> Each of the channel processors is coupled to a respective one of the optical channels (not shown) and generates an image based at least in part on the signal(s) received from the respective optical channel.

Similarly, FIG 20B depicts processing components, as well as at 22:15-20

> As another example, the column logic may employ an integration time or integration times adapted to provide a particular dynamic range as appropriate to the corresponding optical channel.

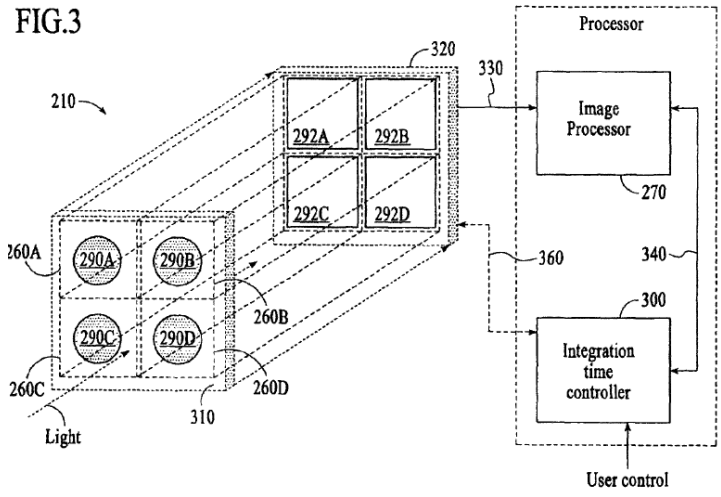
Therefore, A POSITA will understand what processing component is used in claim 1, claim 5 and claim 11.

Even to the extent, *arguendo*, the "processing component" terms are governed by § 112, ¶ 6, they are not indefinite. Unlike in *Williamson* and *Aristocrat*, cited by GM, the '158 Patent's disclosure reasonably informs a POSITA about the structure of the claimed "processing component" and the operations and algorithm involved in performing the recited functions. Hernandez at ¶¶ 154-166. Indeed, an algorithm in the computer arts is a broad concept used "to identify a step-by-step procedure for accomplishing a given result," and may be expressed "in any understandable terms including as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure." *Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1385 (Fed. Cir. 2011)); *see also Finisar Corp. v. DirecTV Grp.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008)).

In discussing the concept of "integration time control," the specification explains that "the digital camera systems of an embodiment use integration time control to control the time the electrical signal is integrated on a charge storage device (capacitance) within a sensor (pixel), as described herein. Integration time control, also referred to as 'focal plane shutter' control, controls the time the electrical signal is integrated or accumulated by controlling a switch (e.g., charge integration switch) coupled or connected to the sensor or a photo-detection mechanism of a sensor." Ex. 18, '158 Patent at 4:41-50. The specification goes on to explain that "[t]he processing component is configured to separately and simultaneously control an integration time of each channel. The integration time of at least one channel is controlled relative to the integration time of at least one other channel so that an image formed by combining data of a frame received simultaneously from the channels has a relatively large dynamic range." *Id*. at 5:4-11.

The specification further describes the portions of the processor, how they interact with other components of the digital camera subsystem, and how they perform the claimed functions. Hernandez at ¶¶ 154-166. With reference to Fig. 3 (reproduced to the right), for example, the patent states: "The digital camera subsystem 210 further includes a processor. The processor includes an image processor portion 270 (referred to as image processor 270) and an integration time controller portion 300 (referred to as controller 300). The controller is a component of the variable integration time that provides integration time control for each of the camera channels." Ex. 18, '158 Patent at 8:32-38. The specification further states: "The processor 270 is coupled or

FIG.3



connected to the one or more sensor portions (e.g., sensor portions 292A-292D) via one or more communication couplings or links, represented by a signal line 330." *Id*. at 8:38-47.

The specification then provides a detailed explanation of the operation of the digital camera subsystem, including the role of the processor, how integration times are configured, and how data is combined to form images for the embodiment of Fig 3 (*id*. at 8:48-9:62), as well as the embodiments of Figs. 4-6 (*id*. at 9:63-11:18). Hernandez at ¶¶ 154-166. With reference to Fig. 7, the specification further details the steps involved in forming images using the processor's image processor (270) and integration time controller (300). Ex. 18, '158 Patent at 11:19-43; Hernandez at ¶¶ 154-166. The specification discloses numerous additional embodiments of processing components for controlling and determining integration times and combining data to form images. *Id*. at 11:57-12:27, 12:41-15:45 (describing operation of "signal [or image] processing circuitry" in Figs. 9 and 11-14); 15:46-17:40, 21:35-22:62 (describing operation of "processors" in Figs. 15 and 20A-D); 22:63-23:10 (describing operation of "camera interface compris[ing] an interface that processes signals" in Fig. 21).

Unlike in *Williamson* and *Aristocrat*, cited by GM, the '158 Patent's disclosures reasonably inform a POSITA about the structure of the claimed "processing component" and the operations and algorithm involved in performing the recited functions. Hernandez at ¶¶ 154-166. *See Typhoon*, 659 F.3d at 1385. Because the '158 Patent provides such an algorithm, its claims are not indefinite.

6. '475 Patent: "processing module configured to …" (claim 15)

IV's Construction	GM's Construction
Not subject to §112(f), not indefinite	Subject to §112(f); Indefinite

The Court should adopt the plain and ordinary meaning of the "processing module …" claim phrase in the '475 Patent and reject GM's means-plus-function and indefiniteness arguments. "As an initial matter, *Williamson* does not, as [GM] suggests, stand for the broad proposition that the term 'module' automatically places it among terms such as 'means' and 'step for,' thus triggering a presumption that § 112(f) applies." *See Blast Motion*, 2017 WL 476428, at *14. "Instead, the *Williamson* Court found that 'module is a well-known nonce word that *can* operate as a substitute for 'means' in the context of § 112, para. 6.'" *Id*. (emphasis in original) (quoting *Williamson*, 792 F.3d at 1350). Because the disputed phrase does not use the word "means," the presumption against invoking § 112, ¶ 6 applies. *Id*. ("data storage module" not a means-plus-function term); *Zeroclick*, 891 F.3d at 1007. GM cannot rebut this presumption.

Claim 15 of the '475 Patent recites "[a] device for notifying a recipient of a violation by a driver of a vehicle, the device comprising: an information module configured to determine, while the device is located within a vehicle, information about the vehicle; *a processing module configured to determine, while the device is in the vehicle, that the vehicle committed a violation based on the information about the vehicle*; and a transmission module configured to send, to a remote computing system while the device is located within the vehicle, an indication of the violation…." Like with "processing component" above, a POSITA would understand the "processing module" in claim 15 to refer to computer circuitry and programming for processing data to perform operations. Hernandez at ¶¶ 127-137. FIG 2 depicts element 120 as the computing processing module. Claim 15 identifies the processing module's operations to a POSITA, including its input (information about the vehicle from the information module), its function (determining whether the vehicle committed a violation), and its output (a determination that a violation occurred, to be sent by the transmission module to a remote computer system).

Hernandez at ¶¶ 127-137. FIG 5 shows an example of a variation, when a measured speed is higher than a speed limit (Element 610) even adding an offset value to allow a wiggle room in terms of surpassing a speed limit. A POSITA will understand that the algorithm found in FIG 6 requires circuity and a processing unit to determine average speed, which requires sampling at multiple times and dividing by the number of samples. These computations are clearly done using a processor.

Claim 15 therefore connotes sufficient structure to a POSITA. *Huawei v. Verizon*, 2021 WL 150442, at *32-33, *54-55 ("processing unit" and "processing module" not governed by § 112, ¶ 6 and not indefinite); *CXT*, 2019 WL 4253841, at *11 ("processing module for processing" not governed by § 112, ¶ 6 and not indefinite).

Even to the extent, *arguendo*, the "processing module configured …" term invokes § 112, ¶ 6, it is not indefinite because the '475 Patent's specification discloses sufficient corresponding structure. For example, the specification describes "a processing module configured to receive the location information, retrieve at least one geographic map based on the location information, determine a speed limit based on the location information and compare the speed of the device to

the determined speed limit." Ex. 19, '475 Patent at 2:23-34. With reference to Fig. 2 (reproduced to the right), which depicts a block diagram of various modules included in an exemplary device for controlling a vehicle's speed according to the invention (*id*. at 3:1-5, Fig. 2), the specification states that "the device will contain a computer processing module 120, e.g., a microprocessor" that "will use computer software instructions that have been programmed into the module and conventional computer processing power to interact and organize the traffic flow between the various other modules." *Id*. at 3:56-62. The specification further states that "it is to be understood that the present disclosure may be implemented in various forms of hardware, software, firmware, special purpose processors, or a combination thereof." *Id*. at 3:62-65. The processing module interacts with the device's other modules through "[a] system bus 121[,] [which] couples the various components shown in FIG. 2 and may be any of several types of bus structures, including a memory bus or memory controller, a peripheral bus, and a local bus using any of a variety of bus architectures," as well as "an operating system and micro instruction code preferably residing in read only memory (ROM)." *Id*. at 3:66-4:8.

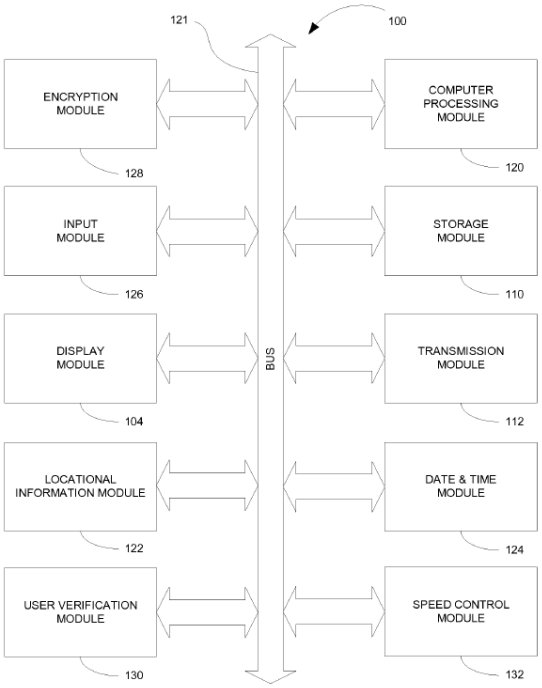


FIG. 2

As for the processing module's vehicle information input, the specification states that the device's "locational information module 122 [including, *e.g.*, a GPS receiver and antenna] will be provided for determining a location of the device 100 and/or user[] … [and to] calculate routes traveled, velocity, or speed of a vehicle including the device 100, etc., or alternatively, … send the

position coordinates to the processing module 120 at a predetermined sampling period where the processing module will perform the calculations." *Id*. at 4:21-38. In addition, a "storage module 110 will store various types of information such as the inputted destination addresses, routes traveled by the user, the user's home address, etc." as well as "a plurality of geographical maps." *Id*. at 5:12-23. "In operation, the processing module 120 will process information received from overhead satellites and calculate the geographic location that the device 100 is currently at… [and] then plot[] that location on a graphic representation of a map [that is] stored in the storage module 110, e.g., internal or external memory … and then displayed on the display module 104 of the device 100." *Id*. at 5:23-39. Furthermore, "processing module 120 will determine based on the information received from the locational information module 122 that a map corresponding to the devices current position is not available and the processing module 120 will request an appropriate map from a service provider available on a communication network accessed via the transmission module 112." *Id*. at 5:40-51; *see also id*. at 6:6-36 (describing processing module's operation using encryption), 6:37-49 (describing processing module's operation using hardware interlock).

With reference to the flow chart of Fig. 3, the specification further describes how "the device will obtain location information … to allow the processing module 120 to determine the device's specific location (step 302)" (*id*. at 7:28-41); "determine a speed of the vehicle (step 306)" (*id*. at 7:42-50); "determine the speed limit for the particular route traveled (step 310)" (*id*. at 7:51-58); "compare the determined speed limit to the current rate of speed of the vehicle, and … generate an alert if the user is moving the vehicle in excess of the posted limit" (*id*. at 7:59-8:33); and "correlate a time and date to a particular location and the user's speed at that location" (*id*. at 8:34-39). With reference to Fig. 5, the specification describes the transmission of the vehicle information to a remote computer server "once the processing module 120 has determined the

speed that the subject vehicle is traveling at, the location of that vehicle and the time and date of the speed reading" (*id*. at 9:4-34, 10:15-37), and the remote computer server's generation of an alert or other information based on that information (*id*. at 9:35-10:14).

In light of the specification's guidance, including a step-by-step procedure of the processing module's operation, a POSITA would understand the '475 Patent to disclose a sufficient algorithm for configuring the claimed "processing module" to achieve the recited function of determining whether a vehicle has committed a violation. *See Realtime Data*, 2017 WL 2590195, at *16-17. Thus, claim 15 of the '475 Patent is not indefinite.

7. '628 Patent ("processor configured to …") Claim 1

IV's Construction	GM's Construction
Not subject to §112(f), not indefinite	Subject to §112(f); Indefinite

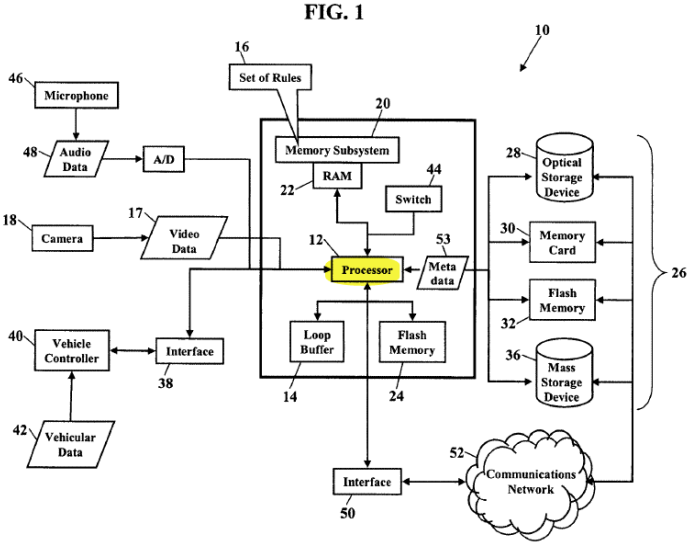
The Court should adopt the plain and ordinary meaning of the "processor configured" term in claim 1 of the '628 Patent and reject GM's means-plus-function and indefiniteness arguments. The claim term does not use the word "means," and GM cannot rebut the presumption against invoking § 112, ¶ 6. *Zeroclick*, 891 F.3d at 1007.

As with the previous "processor" terms, a POSITA would understand the claimed "processor" to refer to a computer processor, a class of structures well-known in the art. Hernandez at ¶¶ 113-124; *see, e.g., Cellular Commc'ns*, 2016 WL 7364266, at *15-16; *Fisher-Rosemount*, 2019 WL 6830806, at *16. Claim 1 connotes structure sufficient to support the processor's recited functions. Claim 1 is directed to a "video recorder," identifies components with which the processer interacts ("a buffer … and a memory device in communication with the processor"), and describes the ways in which the processor is configured to operate, including its inputs and outputs: store video data in the buffer; detect a movement of a door latch of a vehicle; attempt to detect a wireless key fob …; and transfer at least a portion of the video data from the buffer to the memory

device if and only if the wireless key fob has not been detected." Hernandez at ¶¶ 113-124. Clearly, a processor is the only circuity that can detect a movement of a latch by a series of samples of data, e.g. sensor.

Even to the extent, *arguendo*, the "processer" term invokes § 112, ¶ 6, it is not indefinite because the '628 Patent's specification discloses sufficient corresponding structure. With reference to Fig. 1 (reproduced to the right with highlighting), which depicts "a simplified componentry schematic of the video recorder 10," the specification explains that "[t]he video recorder 10 includes at least one processor 12, a loop buffer 14, and a set 16 of rules," and "stores video data 17 of an event captured by at least one camera 18 … in one or more memory devices." Ex. 22, '628 Patent at 4:10-29; *see also id*. at 4:30-58 (describing loop buffer), 4:59-5:11 (describing set of rules). The specification states that "[t]he set 16 of rules specifies the conditions, events, errors, or signals that trigger a transfer of the contents of the loop buffer 14." *Id*. at 6:59-62. In that regard, "[w]hen the set 16 of rules triggers a transfer of the contents of the loop buffer 14, the video data may be useful in identifying a thief, determining fault in an accident, or documenting a component failure." *Id*. at 6:62-65. For example, "[t]he vehicle controller 40 … may detect movement of a door latch[,] [which,] [i]f … not accompanied by digital authorization from a wireless key fob, the … may indicate an attempted vehicle theft." *Id*. at 6:65-7:2. In that situation, "[t]he set 16 of rules, then, could specify that when door latch movement is detected, yet unaccompanied by digital authorization from a wireless

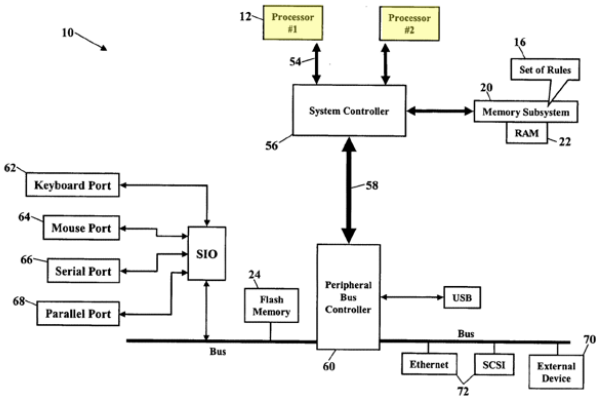
FIG. 1



key fob, the contents of the loop buffer 14 should be transferred to a more permanent memory device (e.g., 20, 22, 24, 26, 28, 30, 32, and/or 36)." *Id.* at 7:2-8. The specification's details here about the processor's recited functions in relation to the other claimed components of the video recorder would inform a POSITA about the processor's structure. Hernandez at ¶¶ 113-124.

A POSITA would find additional structural support in the patent's descriptions of other figures. With reference to Fig. 2 (reproduced with highlighting to the right), the specification explains that "[t]he video recorder 10 includes the one or more processors 12 executing an operating system[,] … [which] as is well known, has a set of instructions that control the internal functions of the processors 12 and of other components." Ex. 22, '628 Patent at 8:24-29; *see also id.* at 9:1-19 (providing examples of such operating systems). The specification states that the "system bus 54 communicates signals, such as data signals, control signals, and address signals, between the processor 12 and a system controller 56[,] … [which] provides a bridging function between the one or more processors 12, the memory subsystem 20, and a PCI (Peripheral Controller Interface) bus 58." *Id.* at 8:29-35. The specification further indicates that "those of ordinary skill in the art also understand the at least one processor 12 is typically a microprocessor" and provides a number of examples of microprocessors. *Id.* at 4:47-67. In describing Fig. 4's flowchart of the steps involved in recording video data, the specification provides details about the process of storing video data in the loop buffer, applying a set of rules to transfer the contents of the loop buffer to the memory, and

FIG. 2



transferring data to memory—all processes for which the claimed processor must be configured. *Id*. at 10:24-11:3.

In light of the specification's guidance, a POSITA would find a sufficient algorithm for configuring the claimed "processor" to carry out the recited functions. Claim 1 of the '628 Patent is not indefinite.

8. '138 Patent ("processor is configured to") (Claim 1)

IV's Construction	GM's Construction
Not subject to §112(f), not indefinite	Subject to §112(f); Indefinite

The Court should adopt the plain and ordinary meaning of the "processor configured" term in claim 1 of the '138 Patent and reject GM's means-plus-function and indefiniteness arguments. The claim term does not use the word "means," and GM cannot rebut the presumption against invoking § 112, ¶ 6. *Zeroclick*, 891 F.3d at 1007.

Claim 1 is directed to a "user equipment (UE) comprising: a processor communicatively coupled to a transmitter and circuitry configured to receive," wherein the processor has a series of recited configurations. The claim's recited configurations for the processor connote sufficient structure for the processor, describing how the processor will interact with the transmitter and circuitry to send or receive a variety of information (parameters, messages, allocations of uplink resources, or data signals) and how the processor will determine a plurality of buffer occupancies associated with one or more radio bearers and select data from the radio bearers based on received parameters or on buffered data for respective radio bearers. Hernandez at ¶¶ 169-174. Thus, the "processor" term does not invoke § 112, ¶ 6.

But even if it did, claim 1 is not indefinite because the specification discloses the processor's structure in a manner sufficient to achieve the recited functions. For example, the

specification discloses "a wireless communication unit … compris[ing] a signal processor arranged to identify buffer occupancy for individual radio bearers and a transmitter operably coupled to the signal processor and arranged to transmit a message to the radio access network. Ex. 24, '138 Patent at 3:65-49. The specification also discloses "an apparatus comprising a memory and a processor operably coupled to the memory[,] [with] [p]rogram code … executable on the processor, where the program code is operable for mapping one or more services to individual radio bearers of a plurality of radio bearers; reporting buffer occupancy for the plurality of radio bearers; and prioritizing the allocated resource across multiple wireless communication units on a radio bearer basis." *Id*. at 4:49-57. Further, the "processor" in the claim limitations would be readily understood as a processor (e.g., the processor discussed above) that is optimized for use in wireless digital communications and wireless networks such as those in compliance with, e.g., technologies related to GSM, TDMA, etc. As one example, a processor in the claim limitations may correspond to the disclosed structure of a signal processor also discussed above. *Id*. at 3:65-49.

The '138 Patent describes embodiments where one or more of the processors cause the circuitry to receive parameters associated with a plurality of radio bearers, determine a plurality of buffer occupancies, wherein each of the plurality of buffer occupancies is associated with one or more radio bearers of the plurality of radio bearers, cause the transmitter to transmit a message including the plurality of buffer occupancies to a network, cause the circuitry to receive a single allocation of uplink resources, select data from the plurality of radio bearers for transmission using the single allocation of uplink resources, wherein the selection of the data occurs using a first iteration and a second iteration. These functions are sufficiently linked to corresponding algorithm disclosed, for example, with reference to FIG. 6. *Id*. at 10:48-12:28; Hernandez at ¶¶ 169-174.

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RESPECTFULLY SUBMITTED,

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing instrument was served or delivered electronically to all counsel of record on this 1st day of August, 2022, via the Court's CM/ECF System.

/s/ Jonathan K. Waldrop
Jonathan K. Waldrop